

**A STUDY TO ASSESS THE KNOWLEDGE AND PRACTICE  
REGARDING REVISED CARDIO PULMONARY  
RESUSCITATION (CPR) GUIDELINE AMONG  
FINAL YEAR NURSING STUDENTS AT  
PPG COLLEGE OF NURSING,  
COIMBATORE**

**By**

**Reg. No: 301411102**

**A DISSERTATION SUBMITTED TO THE TAMIL NADU  
Dr. M. G. R. MEDICAL UNIVERSITY, CHENNAI IN  
PARTIAL FULFILLMENT OF REQUIREMENT  
FOR THE DEGREE OF MASTER OF  
SCIENCE IN NURSING**

**OCTOBER 2016**

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The background of the image is a close-up of pink rose petals, some of which are covered in small, clear water droplets. The petals are in various stages of bloom, with some showing the layered structure of the rose. The lighting is soft, highlighting the delicate texture of the petals and the glistening of the water droplets.

*Dedicated to  
Almighty God my  
beloved Husband and  
Parents for their  
Constant  
Encouragement,  
Prayers, Supportive  
Care and Inspiration*

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# CHAPTER - I

## Introduction

*“Whatever can happen to one man can happen to every man”*

*- Jeneca, L.A (2005)*

Cardiopulmonary resuscitation (CPR) is the foundational technique for the emergency treatment of cardiac arrest (CA). The standardized training of CPR has been emphasized more than ever. Common people in developed countries and regions have received popular education of CPR program of Advanced cardiac life support (ACLS) training which was launched jointly by Universal Medical Assistance International Center (2014).

Nurses of health services who have received professional education and training should be able to practice CPR accurately and offer advanced cardiac life support to the patient who suffered an attack of cardiac arrest. This is considered as the basic requirement and qualification of licensed nurses. In the wider community it is an expectation that competence in cardiopulmonary resuscitation (CPR) and Advanced Cardiac Life Support (ACLS) is at a high standard in all hospital medical and nursing staff (Buck-Barrett and Squire, 2014).

Studies have also identified differences in the quality of ACLS /CPR performed by various healthcare providers. Often chest compression is performed inadequately with slow rates of compression and inadequate depth of compression. Researcher found that after a relatively short time following training, nurse's ACLS/CPR skills were poor. Previous studies of CPR/ACLS knowledge and skills

have focused on nurses and other mainstream health professionals (Nyman and Sihvonen, 2012).

Myocardial Infarction (MI) is the leading cause of death worldwide, in which sudden cardiac arrest (SCA) arising from the same is responsible for over 60% of death (American Heart Association, 2005). India has the highest incidence of heart related disease in the world and number of those affected is likely to increase in the upcoming year. According to Indo US health summit which held in New Delhi, India will have 62 million patient with heart disease by 2015, compared to 16 million in the US (Eusas a et al, CADI, Research Foundation, California, USA).

Sudden cardiac arrest is a catastrophic medical emergency that may occur at any time in the hospital or pre-hospital setting. Cardiopulmonary resuscitation (CPR) and basic life support (BLS) are important life-saving, first-aid skills. CPR is an emergency procedure that is performed in an effort to manually preserve intact of brain function until further measures can be taken to restore spontaneous blood circulation and breathing in the person who is experiencing the cardiac arrest. It involves chest compressions and artificial respiration. BLS refers to the maintenance of airway patency and the support of breathing and circulation without the use of equipment, other than a protective device. Therefore, knowledge of CPR is crucial to the improvement of patient survival.

These emergencies can be easily managed by knowledge and practice of resuscitation skills. Nurses are integral part of health care system, and are perceived to be knowledgeable in providing Institutional care to the patient Cardiopulmonary



resuscitation is an important medical procedure which is needed for individuals who face sudden cardiac arrest (American Heart Association 2005). CPR is a combination of rescue breathing and chest compression which is delivered to victim who are thought to be in cardiac arrest. Being important member of health care team nurse are deemed necessary to possess the basic skills and expertise which are needed to perform Cardio Pulmonary Resuscitation. Many times the doctor may not be present near the patient and hence the nurses are expected to provide emergency care. To perform this procedure in a meticulous manner the nurse should be knowledgeable and they should have expertise in the procedure. In contrary to their role, studies from different country have reported poor knowledge among nurses (Mar. H, et.al., 2010).

About 30 % of deaths due to acute myocardial infarction occur within the first hour of the onset and about two-thirds of deaths occur before the victim reaches the hospital. It was also stated that most of early deaths are due to ventricular fibrillation which is treatable. Other causes of sudden death include drowning, suffocation, electrocution, drug overdose and accidental injuries. Many of these deaths can be prevented if the victims get prompt and proper help. Survival of cardiac arrest depends on a series of critical interventions and this sequence is sometimes described as chain of survival. If one of these critical interventions is delayed, the chance of survival would be reduced. In determining the higher chance of survival of the victims, everybody including bystanders, first responders, emergency service personnel, paramedics and doctors must be able to play their roles effectively when dealing with emergency situations (Buck Barret and Squire, 2010).

The initial goals in emergency first aid are to ensure safety or save life, to prevent an injury or illness from deteriorating or going into complications and promote

speedier recovery. Similarly, in trauma cases, apart from definitive and intensive care phase, a comprehensive care must also include pre-hospital as well as emergency and resuscitation phases. These phases must be linked from the injury incident to Pre-hospital care, Emergency Department Services, the Definitive Care and Rehabilitation and Reintegration phases (Abu Hassan Assari, et.al., 2009).

The personnel involved in the management of patients must be trained to ensure a trauma management is standardized and familiar to all Health Personnel. People's heart stops beating every day. For many people this cessation of pulse is premature their "hearts are too good to die". Cardio Pulmonary Resuscitation efforts can restore these hearts to spontaneous activity before the brain has been permanently damaged. As a nurse in many of the cardiac arrest situation he or she will act as a first responder and it all the more important to know how to resuscitate and be familiar with resuscitation equipment, drugs, and procedures. The leading cause of death in the US according to the Center for Disease Control (CDC.gov) is cardiovascular disease. It's important to remember that Cardiopulmonary Resuscitation (CPR) and First-Aid can be applied in many ways. If a person has drowned, had a heart attack, had a stroke, went into cardiac arrest or is choking proper training could mean the difference between life and death of a patient. If the patient isn't breathing, is unconscious or has no pulse CPR should be applied immediately. Always remember, proper CPR begins with chest compressions.

Death is most likely to occur after 10 minutes of loss of oxygen to the brain. From 6 to 10 minutes brain damage is expected. From 4 to 6 minutes brain damage is very possible and from 0 to 4 minutes brain damage is virtually non-existent. When

the heart stops beating blood stops flowing throughout the body. Cardiopulmonary Resuscitation (CPR) is when a person performs chest compressions and breathing into a patient who has no pulse or who isn't breathing. Chest compressions combined with breathing into the patient will carry the now oxygenated blood throughout the body and into the brain. CPR acts like an artificial heart moving the blood rich in oxygen into the brain. If a patient receives CPR and/or an Automated External Defibrillator (AED) his/her chances of survival increases; and continues to increase if Emergency Medical Services (EMS) arrives within 10 minutes.

In India the basic nursing curriculum lay adequate emphasis on Cardio Pulmonary Resuscitation technique. However teaching, learning experience of nursing students related to Cardio Pulmonary Resuscitation may be doubtful. A reason for that is many institutions in India does not have even basic Cardio Pulmonary Resuscitation manikins, since there is no stipulation by regulating body in making such provision a mandate. Besides only few teachers are certified Basic Life-support Advanced Cardiac Life Support providers. This situation can synergistically influence the knowledge, attitude and practice of CPR among nursing students (Abella, et.al., 2008).

Nurses are an integral part of the healthcare system and are perceived to be knowledgeable in providing institutional care to the patients. Cardio-pulmonary Resuscitation (CPR) is an important medical procedure which is needed for individuals who face sudden cardiac arrest. It is a combination of rescue breathing and chest compressions which is delivered to the victims who are thought to be in cardiac arrest. Being important members of the healthcare team, nurses are deemed to possess the basic skills and expertise which are needed to perform CPR. It is documented that

a timely performed CPR can largely prevent sudden death and it is hence considered to be an important medical procedure. Many times, the doctor may not be present near the patient and hence the nurses are expected to provide this emergency care. To perform the procedure in a meticulous manner, the nurses should be knowledgeable and they should have expertise in the procedure. Contrary to their roles, studies from different countries have reported a poor knowledge among the nurses regarding CPR. A study also reported that interventions can improve the nurses knowledge on CPR. Sudden death represents a substantial public health problem, being a major cause of mortality worldwide. It is estimated that there are 200,000 victims of sudden death with cardio-pulmonary arrest occurring each year in Brazil and that half of those occurs outside the hospital. Given the size and relevance of this problem, even small incremental improvements in survival can translate into thousands of lives saved each year.

Estimative point that, for each minute of delayed assistance to a patient in cardiac arrest the chances of survival are decreased by approximately 10% and that data showed that proper and immediate performance of cardiopulmonary resuscitation (CPR) techniques can double or triple a victim's chance of survival. So, it becomes inarguably essential that medical students must be well trained and required to pursue updated knowledge on CPR maneuvers in order to provide a satisfactory care. This is especially true since the recommendations are that basic training must be provided even for the lay population who are the most likely bystander in these situations. In this effort the AHA trains more than 12 million people in CPR annually, including both the lay population and health professionals. Therefore, medical schools must provide adequate opportunity for acquisition of this competence by its medical

students American Heart Association (AHA).

The latest recommendations of the International Liaison Committee on Resuscitation (ILCOR) were released in October 18th, 2010 and were based on a process involving 356 international resuscitation experts from 29 countries who reviewed, discussed, debated, and produced 411 scientific papers supporting their final recommendations. The changes on previously recommended care during CPR, published in 2010, includes changes on the minimum heart compression rate and depth, the sequence of maneuvers, the different re-commendations for lay people and health professionals, the use of automatic defibrillators in all victims, the use of capnography during CPR, and also changes in the medication protocols and a set of recommendations for care of these patients upon returning of spontaneous circulation (Rosc).

### **Need for the Study**

Recently American Heart Association (AHA-2010) has revised Cardiopulmonary Resuscitation (CPR) guideline in the year 2010. Many changes have been incorporated in the new recommendation to improve the outcome of patient. Some important change and Recommendation which were made are changing the Basic Life Support(BLS) sequence from Airway, Breathing, Circulation(ABC) to Circulation, Airway, Breathing (CAB), hand only CPR , emphasis on high quality CPR and post resuscitation care . Implementation of this new resuscitation guideline has been shown to improve outcomes of patients. American Heart Association (AHA 2010) has expressed needs for training health care provider about the new guideline.

The quality of rescuer education and frequency of retraining are critical factors in improving the effectiveness of resuscitation.

Nurses being in the front line of emergency system. It is deemed necessary to train nurse regarding this new resuscitation guideline. For this purpose assessing existing knowledge and attitude of nurse will greatly help in planning an effective teaching learning programme for them. Besides, after 2010 American Heart Association (AHA) new guideline, only few studies were conducted in India to document the knowledge of nurses about new Cardiopulmonary Resuscitation (CPR) guideline, and their practice. Hence the present study was conducted to know the existing knowledge, attitude, and practice about new Cardiopulmonary Resuscitation (CPR) guideline among nursing students.

Nurses are an integral part of the healthcare system and are perceived to be knowledgeable in providing institutional care to the patients. Cardio-pulmonary Resuscitation (CPR) is an important medical procedure which is needed for individuals who face sudden cardiac arrest. It is a combination of rescue breathing and chest compressions which is delivered to the victims who are thought to be in cardiac arrest. Being important members of the healthcare team, nurses are deemed to possess the basic skills and expertise which are needed to perform CPR. It is documented that a timely performed CPR can largely prevent sudden death. and it is hence considered to be an important medical procedure. Many times, the doctor may not be present near the patient and hence the nurses are expected to provide this emergency care. To perform the procedure in a meticulous manner, the nurses should be knowledgeable and they should have expertise in the procedure. Contrary to their roles, studies from

different countries have reported a poor knowledge among the nurses regarding CPR. A study also reported that interventions can improve the nurses knowledge on CPR (Sita Parajulee and Valarmathi, 2014)

Poor knowledge and skill retention following cardiopulmonary resuscitation training for nursing and medical staff. Cardiopulmonary resuscitation training is mandatory for nursing staff and is important as nurses often discover the victims of in-hospital cardiac arrest. Many different methods of improving this retention have been devised and evaluated. However, the content and style of this training lack standardization. Cardiac nursing is a nursing specialty that work with patients who suffer various conditions of cardiovascular system, such as Unstable angina Cardiomyopathy, Coronary artery diseases, Congestive heart failure, Myocardial infraction, Cardiac dysarrhythmias and Congenital cardiac diseases. Cardiac nurses must assess and care for patients with heart problems that range in severity from arrhythmias to Heart transplant .Nurses must be able to immediately assist in treating or initially diagnose a sudden life threatening emergency. Cardiac nurses monitor patient for any signs of a change in condition, administer medication help with basic personal care need and work with the cardiologist to develop a plan of action for patient care. Cardiac Nurses must acquire specialized skills .including ECG Monitoring, Defibrillation, emergency medication, CPR Techniques (Nisha. L. S, 2013).

Cardiac nurses are responsible for identifying emergency situations and to initiate methods for treating emergency situation. Each nurse should aware of emergency situation, medication, methods of CPR, rate, depth of compressions,

ventilation and defibrillation. Cardiopulmonary resuscitation (CPR) has been used in hospitals for about 30 years. Early studies of Cardio Pulmonary Resuscitation in highly selected populations demonstrated its effectiveness and Cardio Pulmonary Resuscitation soon became routine for any patient who died in hospital. However, as experience accumulated it became apparent that many patients, particularly those with chronic diseases, did not benefit from Cardio Pulmonary Resuscitation (Varalakshmi, 2012).

The researcher reported to date have examined patient preferences regarding Cardio Pulmonary Resuscitation decision-making. International studies suggest that most patients do not consider discussions about Cardio Pulmonary Resuscitation preferences to be cruel or insensitive, and most wishes to participate in decisions regarding Cardio Pulmonary Resuscitation and other life-sustaining therapies. However, many patients are unable to participate during the final stages of life-threatening illnesses.

The use of advance directives has been proposed as a means by which competent patients may ensure that their wishes will be carried out. Advance directives are written or verbal statements in which patients set out their preferences regarding life-sustaining treatment in case they later become incompetent. Advance directives have received considerable attention in the United States, where they have widespread legal recognition, but have received less publicity in Australia (Wik, et al, 2011).

In the absence of advance directives, Cardio Pulmonary Resuscitation decisions are generally made by healthcare professionals in consultation with patients'



families. The aim of this study was to compare the opinions of patients and healthcare professionals about several aspects of Cardio Pulmonary Resuscitation: who should be involved in making the decision, what issues are considered important, and how these decisions should be communicated. The ability of health staff to identify life threatening situations and quickly response to it appropriately is very important in determining the survival of the victims. In dealing with these situations, certain measures such as Cardio Pulmonary Resuscitation have to take place immediately. It is important to remember that when indicated, a good Cardio Pulmonary Resuscitation is better than bad Cardio Pulmonary Resuscitation, but even bad Cardio Pulmonary Resuscitation is a thousand times better than no Cardio Pulmonary Resuscitation at all (Kandary. H, et.al., 2010).

In India especially in southern part 10.3% of death happen due to sudden cardiac death. The most common sudden death that is caused by heart attack occurs outside of a hospital. Furthermore the survival rate in such cases is very low. It is estimated that the survival rate after cardiac arrest depends on the quality of cardiopulmonary resuscitation (CPR), alarm Response and time to defibrillation (Anastasia, Kozamania, et.al., 2012).

Cardio Pulmonary Resuscitation has been divided in to basic cardiac life support and advanced cardiac life support because most of the cardio pulmonary arrests occur outside the hospitals and the people who initiate the resuscitation measures in these scenarios are not paramedical or medical personnel. Basic cardiac life support (BCLS), which is usually taught to general population who are the first responders who initiate the resuscitation, measures. So the researcher felt that to know

the ability of students to give first aid and Cardio Pulmonary Resuscitation, to assess the coverage of first aid and Cardio Pulmonary Resuscitation training among students in all occupational categories.

During the clinical experience in cardiac unit, the researcher personally experienced and witnessed lack of knowledge among final year nursing students. So the researcher decided to do a study on A Study To Assess The Knowledge, Attitude And Practice Regarding Revised Cardio Pulmonary Resuscitation Guideline Among Nursing Students.

### **Statement of the Problem**

A Study to Assess the Knowledge and Practice regarding Revised Cardio Pulmonary Resuscitation (CPR) Guideline among Final year Nursing students at PPG College of Nursing, Coimbatore.

### **Objective of the Study**

- To assess the knowledge of final year nursing students regarding Revised Cardiopulmonary Resuscitation (CPR) guideline.
- To assess the Practice of final year nursing students regarding Revised Cardio Pulmonary Resuscitation (CPR) guideline.
- To deliver video assisted teaching programme to final year nursing student.
- To re-assess the knowledge and practice regarding revised Cardiopulmonary Resuscitation (CPR) guideline.
- To find out the correlation between knowledge and practice of final year nursing students regarding revised Cardiopulmonary Resuscitation (CPR) guideline.

## **Hypothesis**

There is a significant difference between pre-test and pos-test knowledge and practice regarding revised CPR guideline among final year nursing student.

## **Operational Definitions**

### **Study**

A detailed investigation and analysis of a subject or situation.

### **Assess**

Evaluate or estimate the nature, ability, or quality of.

### **Effectiveness**

It refers to the gained level of knowledge level of knowledge and attitudes determined by significant difference between pre-test and pos-test scores.

### **Structural Teaching Programme**

It refers to written, verbal and visual instructions systematically developed and designed for a selected group of arts and science students.

### **Knowledge**

Knowledge is defined as information that was acquired through learning or experience.

### **Practice**

Frequency repeated or customary action habitual performance, a succession of a similar kind.

## **Cardio Pulmonary Resuscitation**

Cardiopulmonary resuscitation (CPR) consists of the use of chest compressions and artificial ventilation to maintain circulatory flow and oxygenation during cardiac arrest.

### **Selected types of CPR**

1. Airway
2. Breathing
3. Circulation

### **Assumptions**

- Lack of knowledge among final year nursing student about revised CPR.
- Practice and improving their knowledge help them to save the patient's life.
- Structured teaching programme helps the student to get a clear cut knowledge regarding CPR.

## **CHAPTER - II**

### **Review of Literature**

A literature review is an organized written presentation of what has been published on a topic by scholars. The purpose of review is to convey to the reader what is currently known regarding the topic of interest (Nancy burns, 2005).

A literature review helps to lay the foundation for a study and can also inspire new research ideas. It can help with orientation to what is known and not known about an area of inquiry, to ascertain what research can best make a contribution to the existing base of evidence. Literature review throws light on the studies and findings reported about the problems under the study.

#### **The Related Review of Literature has been Organized under the Following Headings**

- Importance of CPR training
- Knowledge of CPR
- Success rate of CPR
- Literature review related to knowledge

#### **Importance of CPR Training**

American academy of paediatrics and American heart foundation (2006) published guidelines to deal with the life threatening medical emergencies in children. It involves training school teachers, athletic teachers, staffs and students regarding

emergency medical service system, cardiopulmonary cerebral resuscitation and preparedness of school to respond to emergency in children.

Wan, E and Auner, J, R (2014) explained the preparedness of school to responds to emergencies in children. Because children is a significant proportion of their day in school and internal injuries are likely to occur .American heart association stressed the need for the school leaders to establish emergencies response plans to deal with life threatening emergencies. Establishing and practicing a medical response plan (MERP) involving athletics trainers, school nurses, and teachers.

American Red Cross (2014) has begun instituting its newly revised training programme and materials for all first aid. Cardio pulmonary resuscitation, automated external defibrillation and emergency cardio resuscitate care courses. A new teaching technique that the Red Cross will be using is the practice. While you watch method of instruction, which helps to make training more engaging.

Adams, K.F (2013) justified that an often full hospital notes may not available immediately at the time of admission. Otherwise the variations in clinicians practice may relate to a number of factors. There may be among others, fear of upsetting the patients, feelings that it is not the right time that CPR was thought about but not documented.

Abella, B.S (2013) said that patient rights and autonomy has changed since studies were published and indeed, involvement in discussing CPR decisions is now part of the foundation training requirements for all junior doctors. Nurses may play a central role and patients found discussing CPR with trained nurse practitioners.

Bates, E. R (2012) said that when patients are ventilated too rapidly, this decreases venous return by increasing intrathoracic pressure and decreases cardiac output, a combination associated with worse outcomes. A study at a well – known major academic medical centre recoded bagging rates for all patients in cardiac arrest. The average bagging rate was 55 compressions per minute. When bagging in that frequent, venous return and therefore cardiac output are severely compromised.

Culic, V (2012) said that previous audits of CPR decisions were performed within our department in 2000 and 2002. Our patients had CPR decisions in 20/103 cases (19.4%) in 2000 and an improvement to 43/113 decisions (39.8%) in 2002, following the introduction of resuscitation status document.

### **Knowledge of CPR**

Kellerman (2014) studied the effects of adding first responder defibrillation to an urban emergency medical services system served by paramedics. Half of the participating fire – engine companies were given automatic external defibrillators and the staff was instructed to defibrillate patients immediately in the event of a cardiac arrest.

Eisenbuger (2014) conducted study on life supporting first aid training of the public. Since the introduction around 1960 of external CPR basic life support without equipment is A (Airway), B (mouth to mouth breathing), C ( chest compression), training courses by instructions have been provided to medical and to some lay

persons. Skills are effectively performed by trained persons compared to untrained control groups.

The new CPR guidelines (2010) are based on a scientific consensus which reached by 281 international experts. Chest compressions (100/min, 4 – 5 cm deep) should be performed in a ratio 30:2. Endo tracheal introduction is the golden standard and other devices may be employed as well as depending on individual skills.

Teerlink, J. R (2013) disagree about CPR decisions and may do not want to discuss the issue with patients, fearing it may cause distress.

Sackner – Bernstein (2013) showed that only 1/34 doctors would discuss CPR, but 59/100 patients wanted such a discussion. There may be concerns of upsetting patients by raising the issue of CPR, but only 1/100 patients became distressed while talking about CPR.

De Luca, G. (2012) studied 97 cardiac arrests and found that the chest compression rate was <80 per min in 37% of patients and <70 per min in 25% of patients. Higher compression rates were significantly correlated with initial return of spontaneous circulation. For a rate of 95 compressions per min, there was a 75% return and for 40 compressions per min, a 42% return. Perhaps in contrast to traditional thought, chest compression rates really do matter.

Shautha Chandrasekaran (2011) conducted a study to assess the awareness of basic life support (BLS) in vinayaka mission kirupanada variya, medical college in



selam. Using a cross sectional method, sample of 150 in medical, dental, and nursing students, faculty in the study. Group were survey lacking in the awareness of Basic life support (BLS). BLS was poor in all students. The author concluded emphasizes the cognitive approach to general perception and skill of Basic life support (BLS).

Latino and Enfermagem (2011) conducted a study to assess theoretical knowledge of nurses working non hospital urgent and emergency care units. Concerning cardiac arrest and resuscitation. The study was conducted using descriptive study with quantitative approach. The population comprised 91 nurses of the Huecuv in the metropolitan region of Campinas working on the day shift (8hours), data were collected though a questionnaire divided in to parts. The sample was composed of 73 (80.2%) individual , three (2.7%) of the nurse refused to participant, eight (7.3%) were on vacation (or) sick leave , a total of the nurses incorrectly answered ,these individual do not know the Basic life support(BLS) guidelines. Only 37% answered it correctly.

Sita. P. Valarmathi Selvaraj (2011) conducted a study to assess knowledge of nurses in college of medical science – teaching hospital, Bharathpur, Nepal. the study was conducted using cross—sectional design with the sample of 175 nurses. The study result was the mean  $\pm$  SD of all total knowledge score was  $11.45 \pm 2.67$  (the maximum possible score was 21) the authors concluded in general, the knowledge of the nurses was found to be low, thus suggesting a need for educational intervention.

Smite Chandhery, et.al., (2011) conducted a study to assess the knowledge of cardiopulmonary resuscitation (CPR) among doctors and nurses .the study was

conducted using pre test and post test method with the 117 sample . the study result reveled only 3 participant only 3 participant only scored 80 -90 % mark in pretest where as rest of secreted less than 50% mark. The author concluded as basic life support (BLS) work shop is essential to improve knowledge and skill.

Kanstad, B. K and Nilsen, S. A (2011) conducted a study to assess cardiopulmonary resuscitation (CPR) knowledge and attitude to performing by stander CPR among secondary school students in Norway. The study was conducted using questionnaire were distributed to 9 secondary school with 376 sample (16 to 19) were included. The study result reveled 90% knew the national medical emergency telephone numbers (113). 83% using to perform by sander cardiopulmonary resuscitation. In a given situation and among this 16% had perform full basic life support. The authors concluded as by providing students with good quality basic life support (BLS) training in school, the upcoming generation in Norway may strength on first part of the chain of survey in out of hospital cardiac arrest (CA).

Anastasia, Kozamani (2010) conducted a study to assess the awareness about Cardiopulmonary Resuscitation (CPR) among nurses from both urban and rural area hospital staff. The study was conducted using of hospital settings a sample of 310 nurses in the American heart association (AHA) 2008. The study result of the study result revealed 81% of educational level of participants 237 of no knowledge( $V=0.139$ ), $P=(0.019)$  the authors concluded as the maintained that affect the attitude of nurses in initiating cardiopulmonary resuscitation(CPR) is their lack of systematic training in contact, personal experience of nurses has a positive outcome since it reinforces the capacity of initiating of cardiopulmonary resuscitation(CPR).

Rusenbland, A, Lappets, N (2010) conducted a study to assess the awareness about cardiopulmonary resuscitation(CPR) among staff nurses and doctors the was conducted quetionarrie method with a sample of 3144 employees. The study result of the study revealed in the intervention hospital physician had the higher knowledge present but other health professional including nurses and assistant nurse reached a relatively high level post test improvement was inversely related to tea level of previous knowledge and was thus most marked among other health care professional and tea mated among physician. the author concluded as most of the staff nurses ,doctors overall theoretical knowledge increase after systematic standardized training in cardiopulmonary resuscitation (CPR).

Shasta Chandrasekaran and Sathish Kumar (2010) conducted a study to assess awareness of basic life support(BLS) among medical, dental, nursing students and doctors ,the study was conducted using a cross- sectional study was conducted by assessing response to 20 selected question regarding basic life support(BLS), 20 selected basic question regarding basic life support. the sample of 345 medical students,19 dental students,319 nursing students, 72 doctors, only out of 1054(0.19%) had secured 80 to 89% marks. A majority them that is 894(84.82%) had secured less than 50% marks, awareness of medical, dental, and nurses of medical, nursing students is very poor.

Karan Prakash Singh (2010) conducted a study to assess the knowledge and personal experience with cardiopulmonary resuscitation (CPR) among dentist in Udaipur, India. Using a method in questionnaire. This study result study revealed 66.0% had the correct concept of performing it and only 12% had received practical

training in basic cardiopulmonary resuscitation (CPR). 75.9% of dentist had received information about basic cardiopulmonary resuscitation (CPR). The author revealed in the significantly higher among faculty dental participated compared with local dental practitioner a positive near correlation was found between education level and knowledge level.

Nagashima, K (2010) conducted a study to assess the survey of cardiopulmonary resuscitation(CPR) knowledge of the nursing staff & nursing students in the Asahikour, medical college & hospital. Using a method in survey. The surveyed the knowledge of the 66 nursing staff on cardiopulmonary resuscitation (CPR) in sample of 119. A study result the study revealed the average score of the test among the nursing staff and students. nurses were 61 point and 54 points the ability defined as an indication of capacity of participation cardiopulmonary resuscitation(CPR) of the nursing staff was 17% , the student nurse was 0%. The author was conducted in the cardiopulmonary resuscitation (CPR) knowledge both the staff nurses and students nurses.

Zahoer, H and Hague, Z (2009) conducted a study to assess the knowledge about Basic Life Support (BLS). Among undergraduate medical students , the study was conducted using cross sectional design with a sample of 61 students in the state of Karachi , in Pakistan. The study result revealed 57.3% had no knowledge ,among those 34% had heard basic life support some were ,22.9% had some knowledge ,22% had complete knowledge ( $P<0.05$ ) the authors concluded as most of the medical students although had not attend the course still they had only some knowledge about Basic Life Support(BLS).

AL-Turki YA, et.al., (2008) conducted a study to assess the knowledge and attitudes towards cardiopulmonary resuscitation(CPR) among university students in Riyadh, Saudi Arabia. The study was conducted by cross-sectional survey design with a sample of 2250 students ,the study result reveled 31% did not have prior cardiopulmonary resuscitation(CPR) information.12.7% of individual uncouneted a situation that require the use of cardiopulmonary resuscitation(CPR).only 14% of them performed it. 48.2% individual lack of cardiopulmonary resuscitation(CPR) knowledge. The author concluded as the knowledge on topic was insufficient. Thus, more focus should be placed on improvement of cardiopulmonary resuscitation(CPR) skill.

B. B. Osinaike and D. A. Aderin (2007) conducted a study to assess the knowledge of cardiopulmonary resuscitation(CPR) among Doctors in a Nigerian Hospital. The study was conducted using a close-ended 12 questionnaire was administered to 69 doctors. The result was revealed that mean score for the whole group. The author concluded as average doctor has an inadequate knowledge in cardiopulmonary resuscitation(CPR). Thus suggest need training to all doctors.

Hamilton. R (2005) Performed a systematic review to assess nurses knowledge and retention following cardiopulmonary resuscitation (CPR) training .the study conducted using the cumulative index to nursing and allied health literature .MIDLIN and British Nursing Index .paper published between 1992 to 2002 were obtained . The result reveled 105 primary and 157 secondary reference were Identified .of these 24 met the criteria and were included in the final literature sample.

the author concluded as an-in hospital scenario - based video should be devised and tested to assess the efficacy of this medium in resuscitation training for nurse.

Patricia (2005) Conducted a study to assess the awareness about cardiopulmonary resuscitation(CPR) & Basic life support(BLS) among the third year under graduate nursing students. The study was conducted using non experimental survey method . with a sample of 130 students in Australia. The study result revealed that (78%) . they were well prepared to perform cardiopulmonary resuscitation(CPR) & Basic life support (BLS)  $P=0.001$ . The authors concluded as most of the nursing students although from both discipline had significant gaps in knowledge of cardiopulmonary resuscitation (CPR) & Basic life support (BLS) nursing students out performed.

Peter Larsen, et.al., (2004) A study conducted to assess basic aspects of knowledge and attitude towards resuscitation in a news land, urban community. Using a telephone survey method with a sample of 400 (over 17 years age). The study result was revealed that 74% of subject had previously been taught cardiopulmonary resuscitation of these 12% had been taught during the previous year. only 4% knowledge an acceptable rate of which to perform chest compression and only 9% knowing the correct compression. to ventilation ration for adult cardiopulmonary resuscitation(CPR). The authors concluded as attitude of the community towards cardiopulmonary resuscitation are positive theoretical knowledge relating to basic cardiopulmonary resuscitation (CPR) is poor.

Broomfield. R (2004) conducted a study to assess the retention of basic cardio pulmonary resuscitation (CPR) skill and knowledge. By qualified nurses following

course in professional development in university of fesside college of health, in England. A study conducted using a quasi experimental design , with the sample of 19 nurse. The namely eight point testing question tool, and 26 point knowledge question, whole a 3 hour cardio pulmonary resuscitation (CPR) skills reddened an initial improvement .that decreases in retention of skill lower .later was significant  $CP=0.0001$  .the dated in cardiopulmonary resuscitation( CPR) knowledge also reveled in initial improvement but the decrease retention of knowledge two weeks later. the author concluded as that retention of skills and knowledge quickly deterrents if not used or updated regularly.

### **Success Rate of CPR**

Fazel, R (2014) conducted a study on 566 patients regarding the effectiveness of newly established emergency medical facilities. Technicians trained to use defibrillators programme in rural areas. During the 18 – month study, 64% of victims survived primary cardiac arrest with EMT intervention. However, prior to this implementation, only 3.6% had survived.

In Perth, Australia (2014), 231 patients treated with defibrillation by ambulance officers without full paramedic skills, 40 (22.7%) survived through 28 days after discharge from the hospital. The proportion of survivors in this study is similar to that receiving full paramedic services.

Investigators in Monroe country (2013) New York, evaluated 463 cases with pre hospital cardiac arrest to which advanced life support level units responded. The 48 patients who were found to be in ventricular fibrillation or ventricular tachycardia

and who received CPR within four min and were treated according to advanced cardiac life support protocols within 10 min by ALS – level providers, had a survival rate of 33%. In comparison, similar patients who received CPR within 4 min but for whom ALS – level care was delayed beyond 10 min, had a survival rate only of 20%

Bakhtiar Ali (2013) said that sudden cardiac death is a major clinical problem causing 300,000 to 400,000 deaths annually and 63% of all cardiac deaths. Despite the overall decrease in cardio – vascular mortality, the proportion of cardio – vascular death from sudden cardiac death has remained constant. Survival rates among patients who have out – of – hospital cardiac arrest vary from 5% to 18% depending on the presenting rhythm

Meine, TP (2012) said that many older people on hospital wards are frail. This high prevalence of frailty is partly as a result of the ageing population but also as a consequence of less – dependent individuals leaving hospitals at an early stage by variety of supported discharges scheme. This hospital population is at higher risk of cardio – pulmonary arrest and their likelihood of survival to discharge if CPR is required is negligible. In recent audit, out of 307 deaths over a year, there were 31 arrest calls on the acute elderly medicine wards in this trust, but no survivors to discharge.

### **Literature Review Related to Practice**

Rodgers, et.al., (2014) conducted a study whether there was a correlation between written and practical evaluations in an ACLS course. The method of the study is by 34 senior nursing students from four nursing programs participated in two



separate ACLS classes, completing both the written and practical evaluations. Immediately following the courses, all participants served as team leader for a video recorded simulated cardiac arrest event. A panel of expert ACLS instructors who did not participate as instructors in the courses reviewed each video and independently scored team leaders performances. The result of the study was Spearman's rhocorrelation coefficient between the written test scores and practical skills performance was 0.194 (2tailedsignificance =0.272).the study reached a conclusion that The ACLS written evaluations was not a predictor of participant skills in managing assimilated cardiac arrest event immediately following an ACLS course. Both work in concert to define participant knowledge and neither should be used exclusively to determine participant competence.

Graham and Crouch (2014) conducted a study about Nurses' skills in basic life support. The study includes Cardiopulmonary resuscitation (CPR) skills are fundamental to the function of health professionals, but studies have shown them to be inadequate and outdated. This week, Nursing Standard launches a three-part weekly series on resuscitation. Parts two and three will address the associated ethical issues and measures of outcomes and accountability. The series begins with a survey in a district general hospital which aimed to establish nurses' levels of awareness on the current recommendations for CPR laid down by the Resuscitation Council of the UK. The results show a poor knowledge level and recommendations are offered.

King, et.al., (2013) conducted a study to compare the effectiveness of static simulation to high-fidelity simulation when teaching advanced cardiac life support guidelines. Using a quasi-experimental design, 49 BSN students were randomly

assigned to 2 groups of either static or high fidelity simulation. There were no significant differences between the static and high fidelity simulation groups on the written examination. The high-fidelity simulation group outperformed the static simulation group on mega code performance.

Stiell, et.al., (2013) conducted a Study to test the incremental effect on the rate of survival after out-of-hospital cardiac arrest of adding a program of advanced life support to a program of rapid defibrillation .The method of the study contains controlled clinical trial was conducted in 17 cities before and after advanced-life-support programs were instituted and enrolled 5638 patients who had had cardiac arrest outside the hospital. Of those patients, 1391 were enrolled during the rapid-defibrillation phase and 4247 during the subsequent advanced-life-support phase. Paramedics were trained in standard advanced life support, which includes end tracheal intubations and the administration of intravenous drugs .The result of study showed that From the rapid-defibrillation phase to the advanced-life-support phase, the rate of admission to a hospital increased significantly (10.9 percent vs. 14.6 percent,  $P<0.001$ ), but the rate of survival to hospital discharge did not (5.0 percent vs. 5.1 percent,  $P=0.83$ ). The multivariate odds ratio for survival after advanced life support was 1.1 (95 percent confidence interval, 0.8 to 1.5); after an arrest witnessed by a bystander, 4.4 (95 percent confidence interval, 3.1 to 6.4); after cardiopulmonary resuscitation administered by a bystander, 3.7 (95 percent confidence interval, 2.5 to 5.4); and after rapid defibrillation, 3.4 (95 percent confidence interval, 1.4 to 8.4). There was no improvement in the rate of survival with the use of advanced life support in any subgroup. The researchers reached a conclusion that the addition of advanced-life-support interventions did not improve the rate of survival after out-of-

hospital cardiac arrest in a previously optimized emergency-medical-services system of rapid defibrillation. In order to save lives, health care planners should make cardiopulmonary resuscitation by citizens and rapid-defibrillation responses a priority for the resources of emergency-medical-services systems.

Lan, H. Kerridge, et.al., (2013) conducted a study on decision making in CPR attitudes of hospital patients and healthcare professional. The purpose of this study was to examine the opinions of patients and healthcare professionals regarding the process of making decisions about cardiopulmonary resuscitation. The samples consist of 511 health care professionals and 152 patients at the John Hunter Hospital, Newcastle, New South Wales. 80% of patients and 99% of healthcare professionals thought patients' views should be taken into account when making CPR decisions. More patients than healthcare professionals indicated that doctors should be the main decision makers. Most patients and healthcare professionals wanted their views in their medical records. Results indicated that the 80% patients, 99% of health care professionals want to be involved in CPR decision making and many want some form of advance directives<sup>9</sup>

Brenner (2012) has conducted a study on Determinants of reluctance to perform CPR among 280 categorical emergency nurses and internal nurses and respective program applicants at a 655 bed Brooklyn, New York. A direct relationship was observed between training level and reluctance to perform mouth-to-mouth respiration. This study showed that 74% of experienced staff nurses, 95.5% junior-level nurses were willing to perform mouth-to-mouth respiration.

Thoren Ann-Britt, et.al., (2012) has conducted a study on Possibilities for, and obstacles to, CPR training among 401 cardiac care patients and 311 co-habitants. The aim of the study was to investigate the level of cardiopulmonary resuscitation (CPR) training among cardiac patients and their co-habitants. According to the answers given by the patients, 46% of the patients and 33% of the co-habitants had attended a CPR course at some time. Younger persons were more often willing to undergo training than older persons. Of those patients who had previously attended a course or who were willing to undergo training, 72% were prepared to do so together with their co-habitant. The main outcome was the two-thirds of the patients did not believe that their co-habitant had taken part in CPR training. More than half of these would like their co-habitant to attend such a course. Seventy-two percent were willing to participate in CPR instruction together with their co-habitant. Major obstacles to CPR training were doubts concerning the co-habitant's willingness or physical ability and their own medical status.

## **Conceptual Framework**

Conceptual framework for this study was derived from system theory 1968. It serves as a model for viewing people as interacting with environment. System can be opened or closed. Open system have varying degree of interaction with environment from which the system receives. Input and output in the form of matter, energy or information. The feedback may be positive, negative or neutral. This study aims at determining the effectiveness of video assisted teaching module regarding the revised Cardio pulmonary resuscitation. Present study is based on 'system model'. The components of system are input, through put, output and feedback.

### **Input**

It is the information needed by the system based on the demographic variables like age of student, gender, religion, source of information, medium of instruction in school and place of stay. In this study the input is the assessment of knowledge and knowledge on practice regarding revised Cardio pulmonary resuscitation guideline.

### **Throughput**

Throughput is the security phase where a structured teaching was administered regarding revised Cardio pulmonary resuscitation guideline.

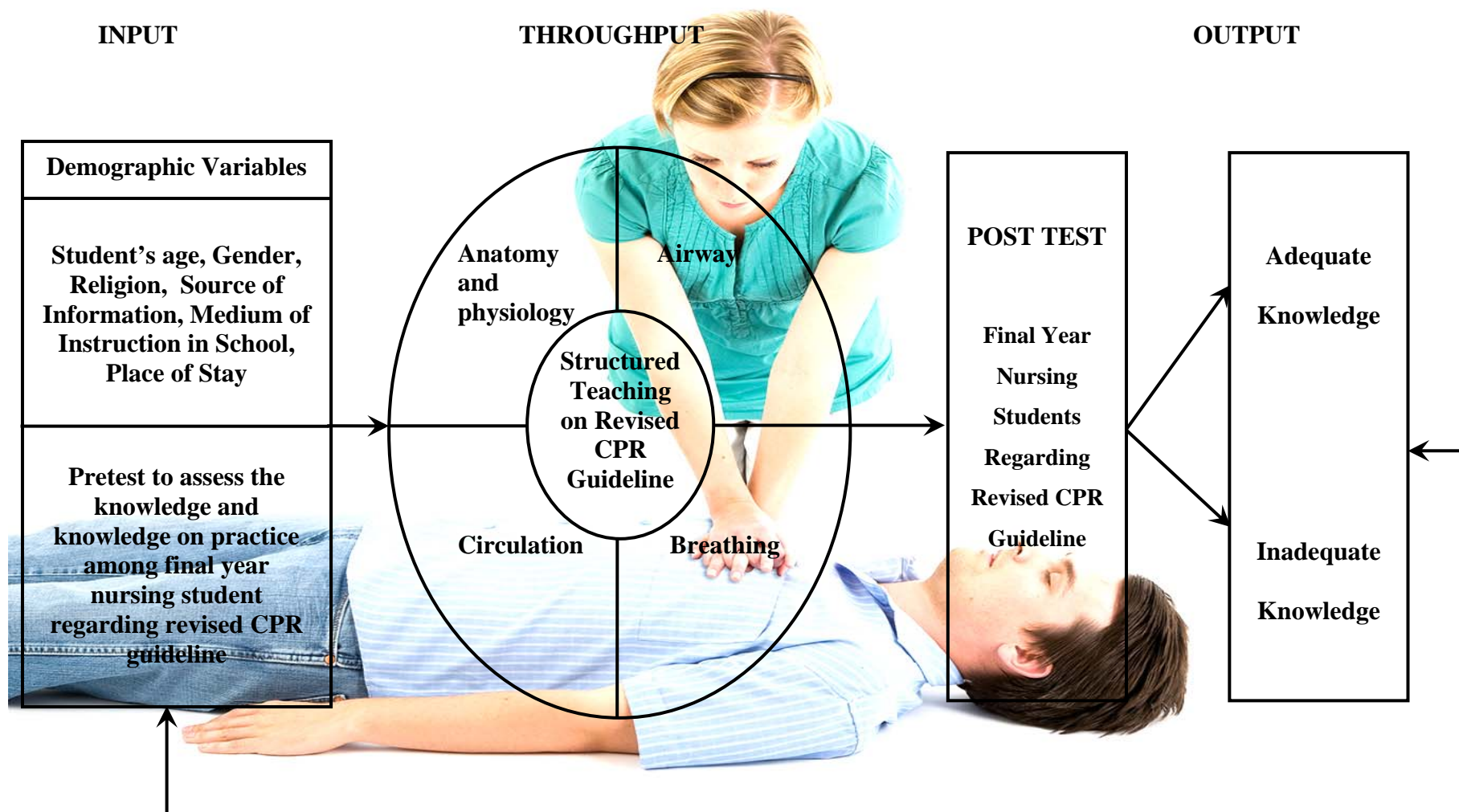
### **Output**

Information are continuously processed through the system and revealed as output in an altered state. In this study the output is the expected gain in the knowledge and knowledge on practice of final year nursing student regarding

revised cardio pulmonary resuscitation guideline which was post tested after structured teaching.

**Feed back**

The feedback is the environment responsible for the system. System feedback may be mutual, positive or negative. If the feedback is negative the process is again reassessed. In this present study the feedback was not included.



**Figure. 1** The Modified Conceptual Framework Based on Von Vertalanffy General System Model (1968)

## **CHAPTER - III**

### **Methodology**

It includes research approach, research design, setting of the study, sample size, sampling technique, criteria for the selection of sample, description of the tool, content validity, reliability and procedure for data collection and plan for data analysis.

#### **Research Approach**

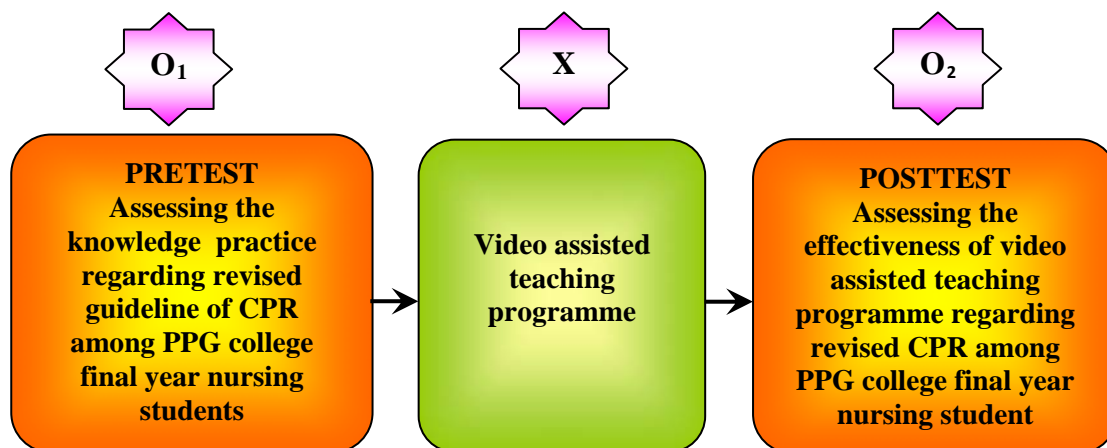
Experimental approach a sub type of quantitative approach was used for the present study. Quasi experiment involve the manipulation of independent variable that is implementing an intervention.

#### **Research Design**

The research design helps the researcher in the selection of subjects, manipulation of experimental variables, testing the research hypothesis procedure of data collection and types of statistical analysis to be used to interpret the data.

A one group pretest, posttest experimental study design was adopted in the study. A pretest was administered by means of a questionnaire method depicted as Q1 then a video assisted teaching programme was delivered, depicted as X, post test was conducted by using the same questionnaire depicted as Q2. The schematic representation of the study design is depicted as below.





**Figure. 2** The Schematic Representation of Research Design

### Setting of the Study

The study was conducted among the PPG College final year nursing students at Coimbatore.

### Population

The population of the study includes the students of final year PPG College of nursing.

### Sample Size

The sample size for the present study is 30.

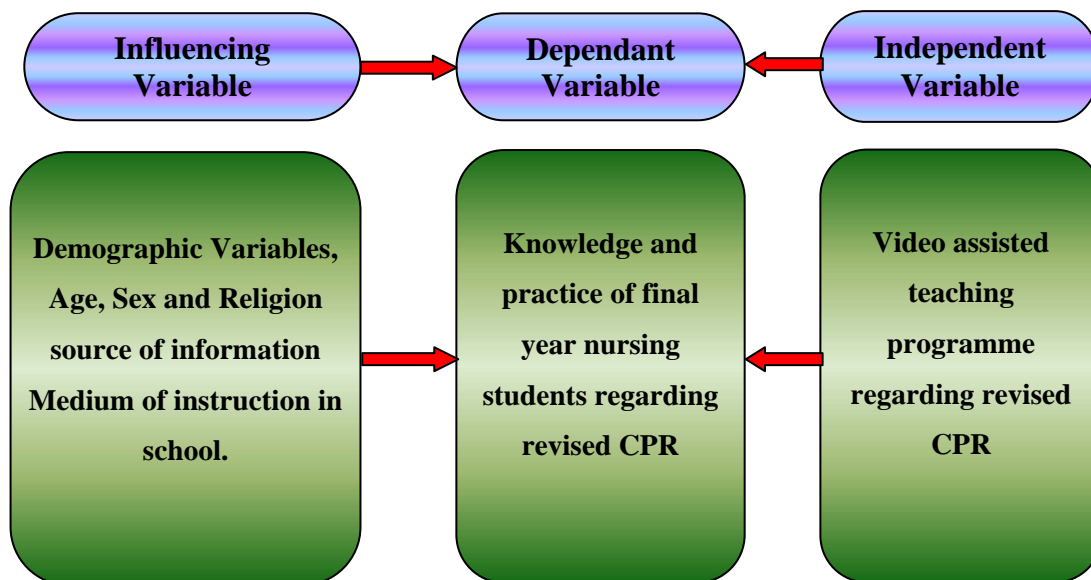
### Sampling Techniques

The students (30) were selected by purposive sampling technique.

### Variables

Independent variable was video assisted teaching programme regarding revised CPR guideline among PPG College final year nursing Students. The

dependent variable was knowledge and practice of PPG College final year nursing students regarding revised CPR guideline. The influencing variables are demographic variables.



**Figure. 3** The Schematic Representation of Variables

### Criteria for Selection of Samples

#### Inclusive Criteria

- Students of PPG College of nursing.
- Students between the age group 22 – 24yrs.
- Who are willing to participate in the study.

#### Exclusive Criteria

- Other year nursing student.
- Pilot study students
- Any alteration in sensory perception.

### **Description of the Tool**

The researcher developed an questionnaire schedule after structured teaching programme and considering the opinion of anatomy and physiology of cardio and Respiratory system, subject expert to assess the knowledge and practice on selected aspects of CPR.

An questionnaire schedule was prepared in the form of the questionnaire method to assess the knowledge and practice of CPR among the selected college students. The interview schedule consists of 3 sections.

#### **Section A**

It consists of Age, Sex, Religion, Source of information, Medium of instruction in college.

#### **Section B**

It contains of 30 yes or no type questions to assess the knowledge about Anatomy and physiology of cardio and respiratory system and CPR (Airway, Breathing, circulation).

#### **Interpretation of Questionnaire**

One mark was given for yes answer and zero mark for no answer total marks allotted for this section was 30.

#### **Section C**

It contains 10 yes or no type questions.

### **Interpretation of Questionnaire**

One mark was given for yes answer and zero mark for no answer total marks allotted for this section was 10.

### **Testing of the Tool**

#### **Content validity**

The tool was given to 5 experts in the field of medical surgical nursing. All the comments and the suggestions given by the experts were duly considered and corrections were made after discussion with the research guide.

#### **Reliability**

Split half method was adopted to make sure the reliability of the tool. The value was 0.8 for knowledge. The tool is reliable for the selected population.

**Table. 1** Shows the Reliability of Instrument

<b>Item</b>	<b>Split Half Reliability</b>
Awareness about CPR among selected nursing college Students	0.8

### **Pilot Study**

It was conducted among 5 students for a period of one week at PPG College of nursing, Coimbatore. After getting permission from the principal, pre-test was conducted by using the knowledge questionnaire and practice questionnaire. After that the video assisted programme regarding revised Cardio pulmonary Resuscitation. Then post test was conducted. The pilot study report showed that there was an

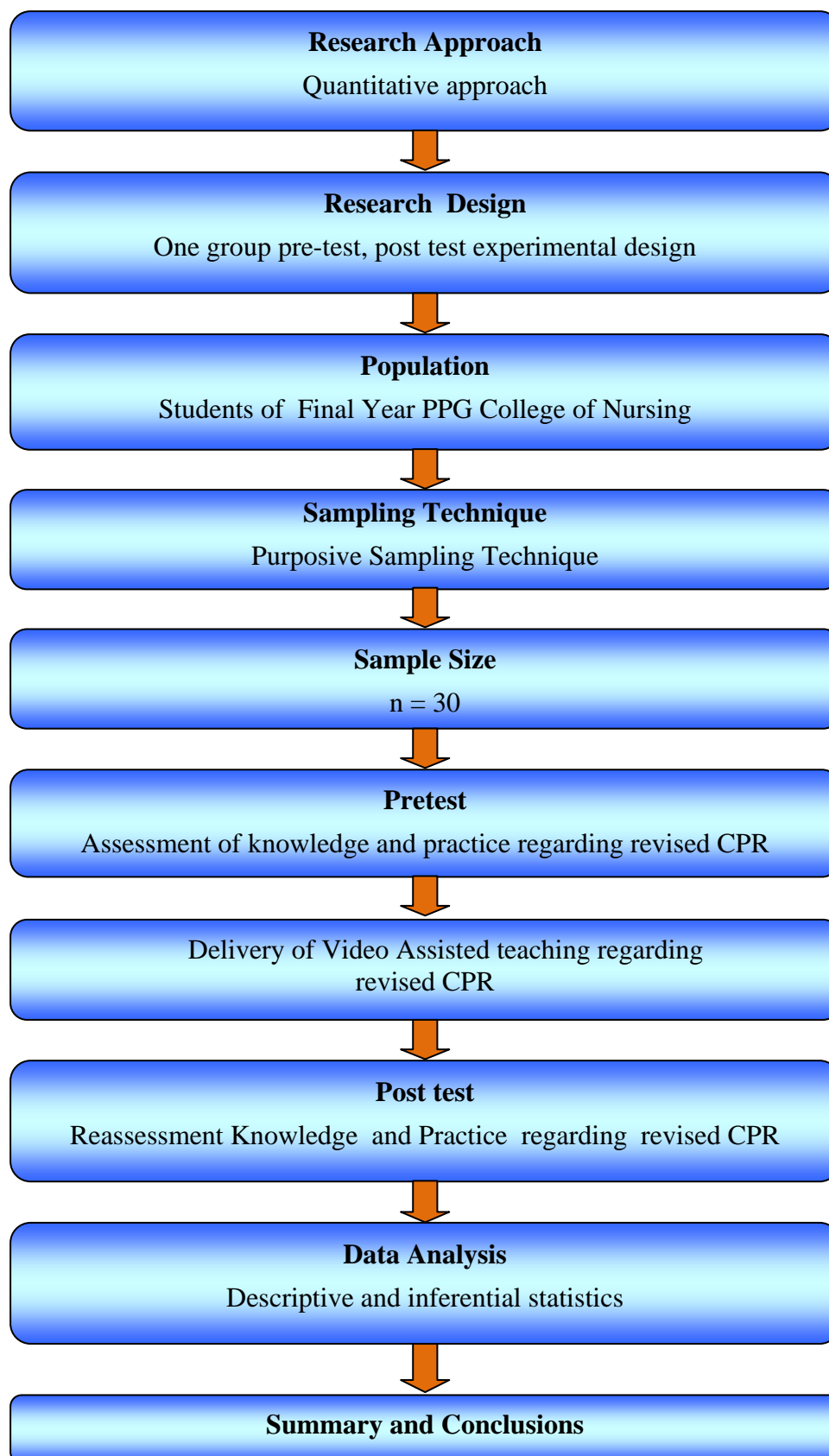
increase in the knowledge and practice towards revised CPR among nursing students. It was found to be appropriate and feasible conduct the main study.

### **Data Collection Procedure**

After getting official permission from our principal we sent a requisition letter to the principal. The researcher met the students of PPG College of nursing and their co-operation were obtained. The study was conducted for a period of 15 days. Using the questionnaire schedule a pre-test was conducted for the selected nursing students. After the pre-test, video assisted structured teaching programme was given regarding revised CPR. The post test was conducted after 14 days interval of teaching. The total number of people interviewed was 30.

### **Plan of Data Analysis**

The investigator adopted descriptive and inferential statistics to analyze the data. The demographic variables were analyzed by using frequency distribution and percentage. Comparison of pre-test and post-test scores were computed on the basics of paired 't' test.



**Figure. 4** The Overall View of Research Methodology

## **CHAPTER - IV**

### **Data Analysis And Interpretation**

This chapter deals with data analysis and interpretation of the data collected from all subjects. Data were analyzed in order of objectives of the study.

The findings based on the descriptive and inferential statistical analysis tabulated as follows

**Section – I**      Distribution of demographic variables of nursing college students

**Section – II**      Distribution of statistical value of pre-test and post-test knowledge score among PPG Nursing College final year students

**Section - III**      Distribution of statistical value of pre-test and post-test practice score among PPG Nursing College final year students

**Section - IV**      Description about the correlation between knowledge and practice regarding revised CPR

## SECTION - I

**Table. 2** Distribution of Demographic Variables of Nursing College Students

(n = 30)

S. No.	Demographic Variables	Frequency	Percentage (%)
<b>1.</b>	<b>Age</b>		
	a) 22 – 24	30	100%
	b) > 24	0	0%
<b>2.</b>	<b>Sex</b>		
	a) Female	24	80%
	b) Male	6	20%
<b>3.</b>	<b>Religion</b>		
	a) Hindu	28	93.3%
	b) Muslim	2	6.7%
	c) Christian	0	0%
	d) Others	0	0%
<b>4.</b>	<b>Source of Information</b>		
	a) Mass media	15	50%
	b) Health professionals	10	33.4%
	c) Books	5	16.6%
<b>5.</b>	<b>Medium of Students</b>		
	a) English	25	83.3%
	b) Tamil	5	16.7%
	c) Others	0	0%



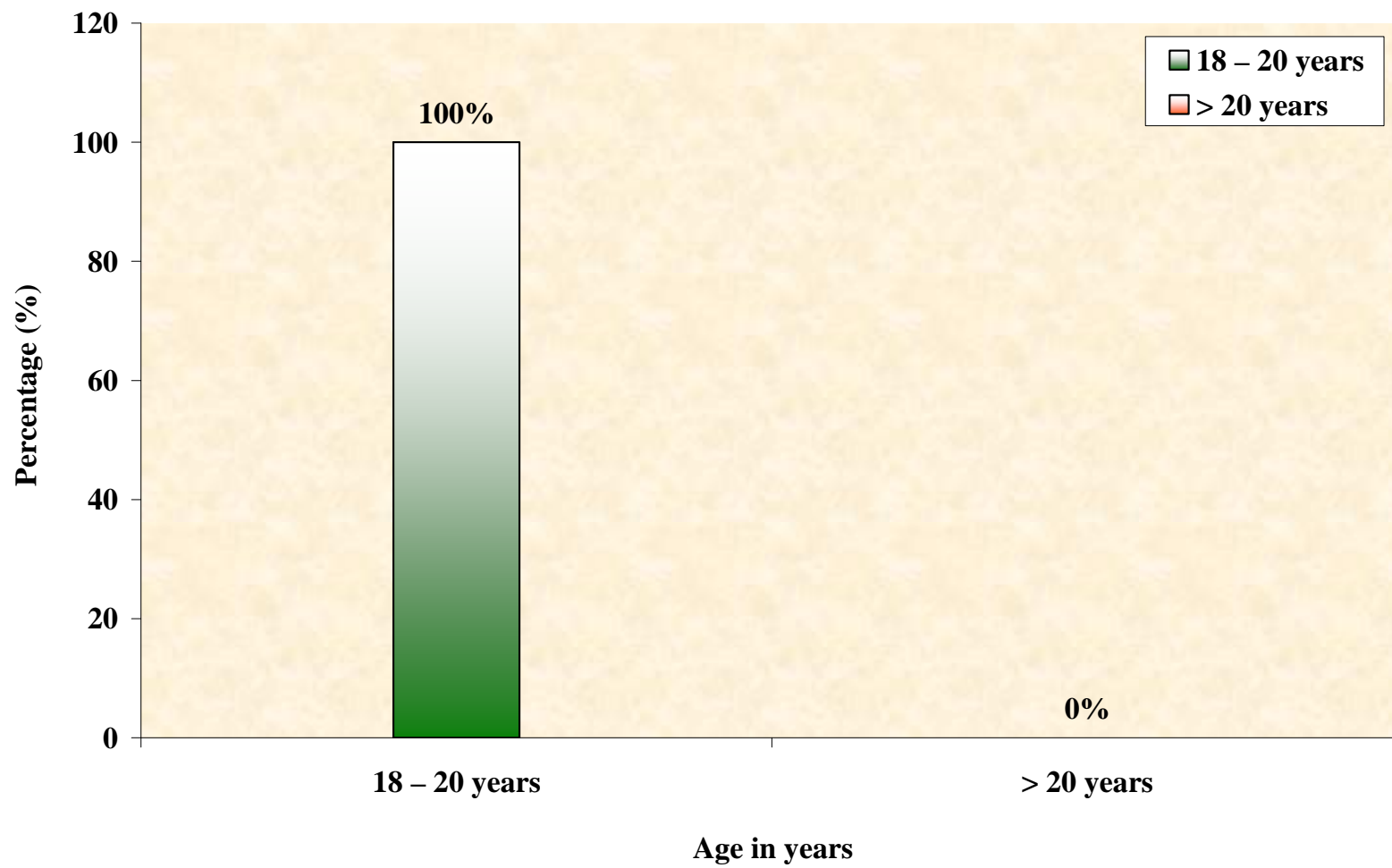
Regarding the age of the students, the 100% of the students are between 22-24.

Regarding the sex of the students, the Female students are 80% and the Male students are 20%.

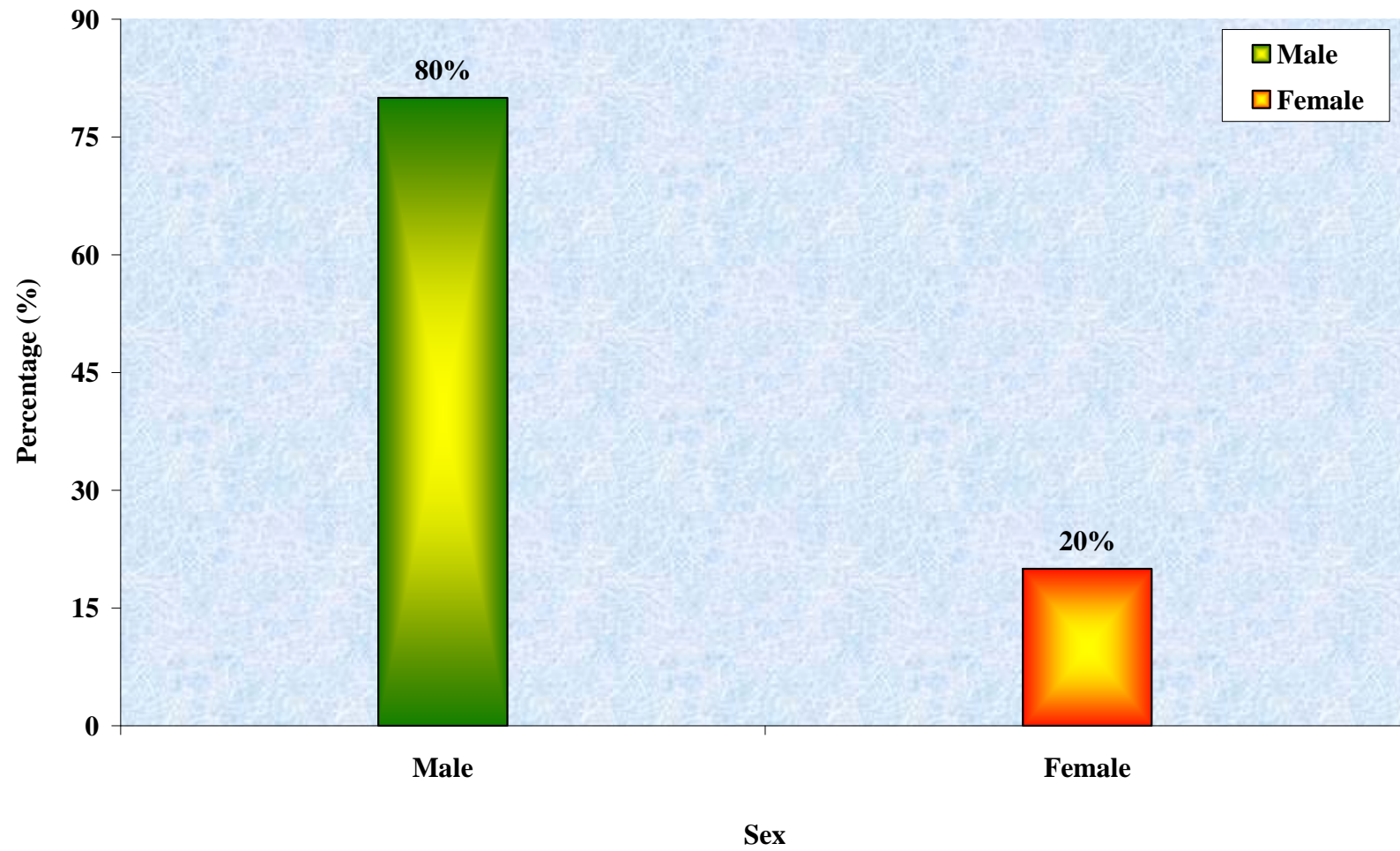
Regarding the religions, Hindu students were 98.3%, Muslim students were 6.7%.

With regard to the source of information, mass media in 50% and the health professionals 33.4% and the Books were 16.6%.

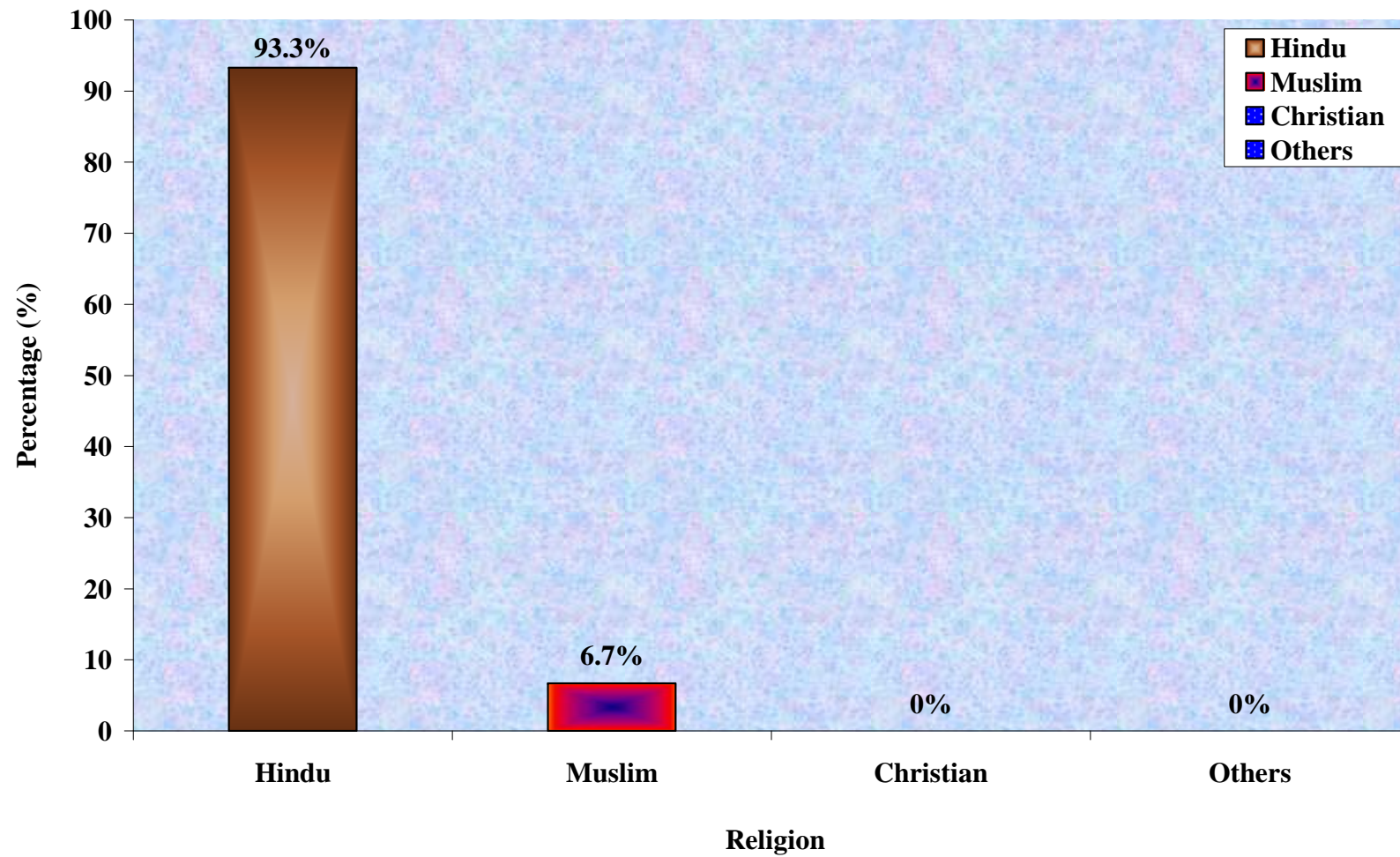
With regard to the medium of students, English is 83.3% and Tamil is 16.7% others are 0.



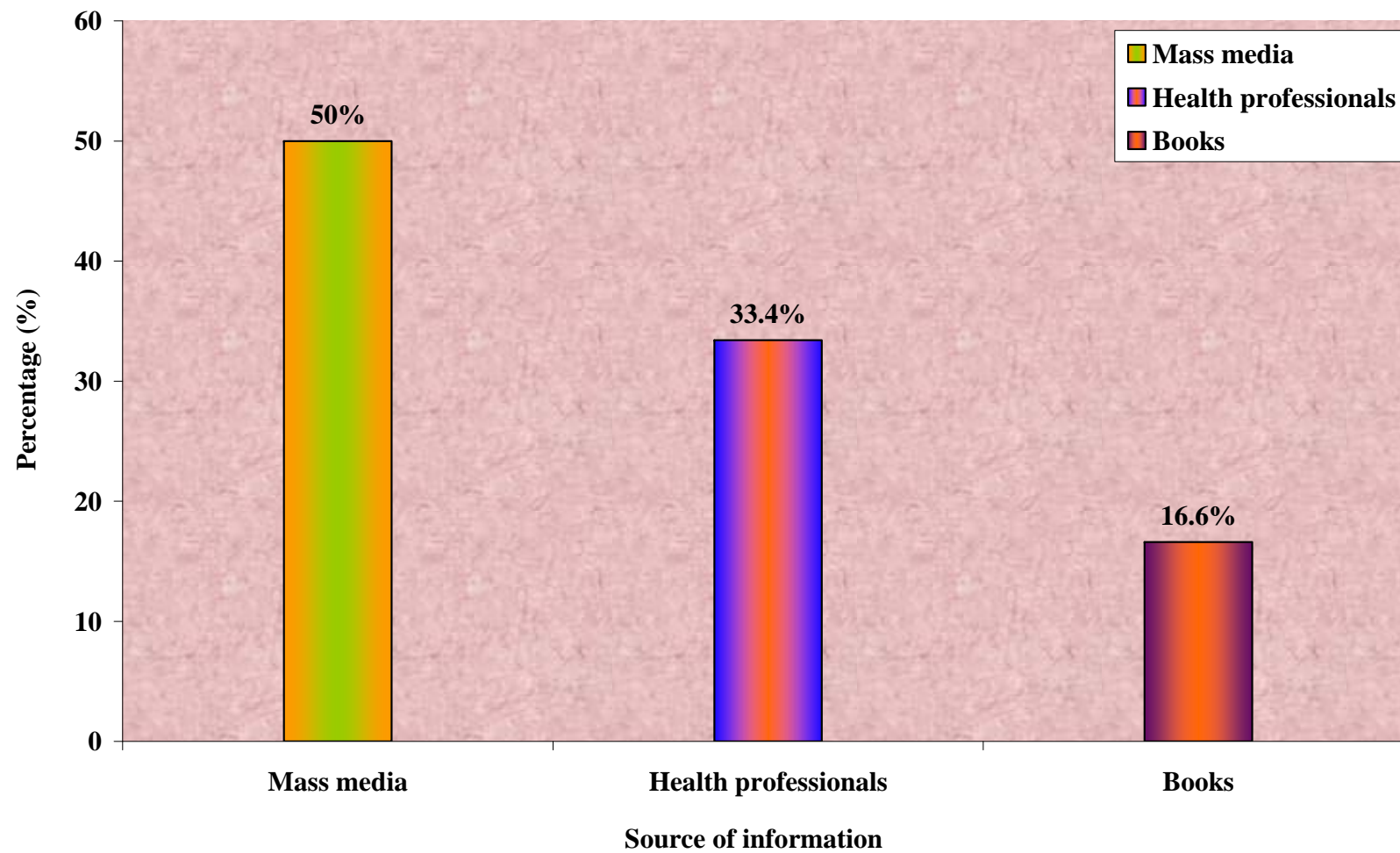
**Figure. 5 Percentage Distribution of Demographic Variables According to Age**



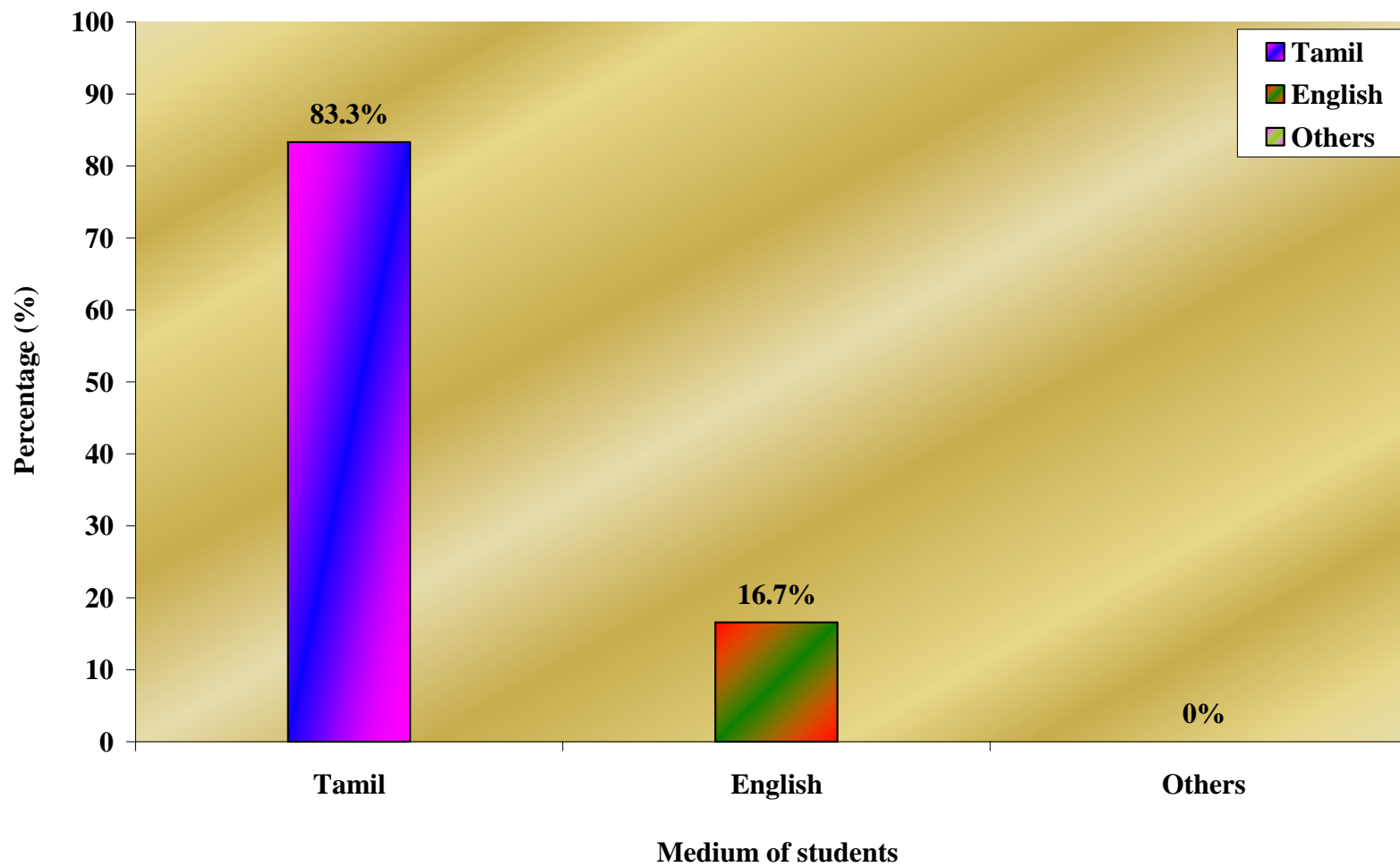
**Figure. 6** Percentage Distribution of Demographic Variables According to Sex



**Figure. 7 Percentage Distribution of Demographic Variables According to Religion**



**Figure. 8** Percentage Distribution of Demographic Variables According to Source of Information



**Figure. 9 Percentage Distribution of Demographic Variables According to Medium of Students**

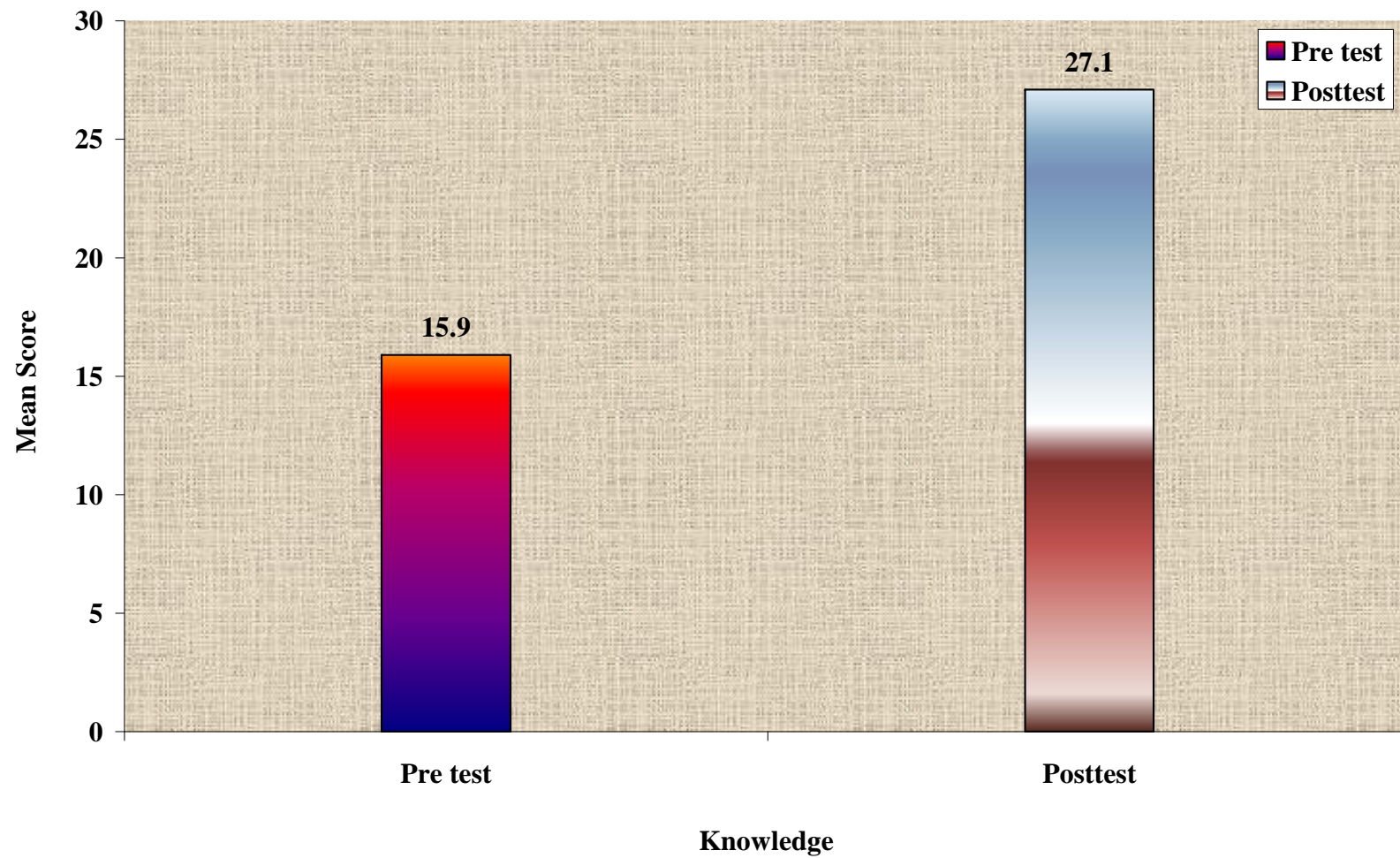
## SECTION - II

**Table. 3** Distribution of Statistical Value of Pre-test and Post-test Knowledge Score  
Among PPG Nursing College Final Year Students

(n = 30)

S. No.	Knowledge	Mean	Standard Deviation	Value	Level of significance
1.	Pre test	15.9	14.17	22.03	0.05
2.	Posttest	27.1	8.29		

The 29 degree of freedom and at 5% level of significance the table value of  $t = 2.045$  and calculated value is 22.03 which is more than the table value, Hence the alternative hypothesis is accepted. And it can be concluded that the video assisted health education regarding CPR has improved the knowledge.



**Figure. 10 Distribution of Statistical Value of Pre-test and Post-test Knowledge Score Among PPG Nursing College Final Year Students**



### SECTION - III

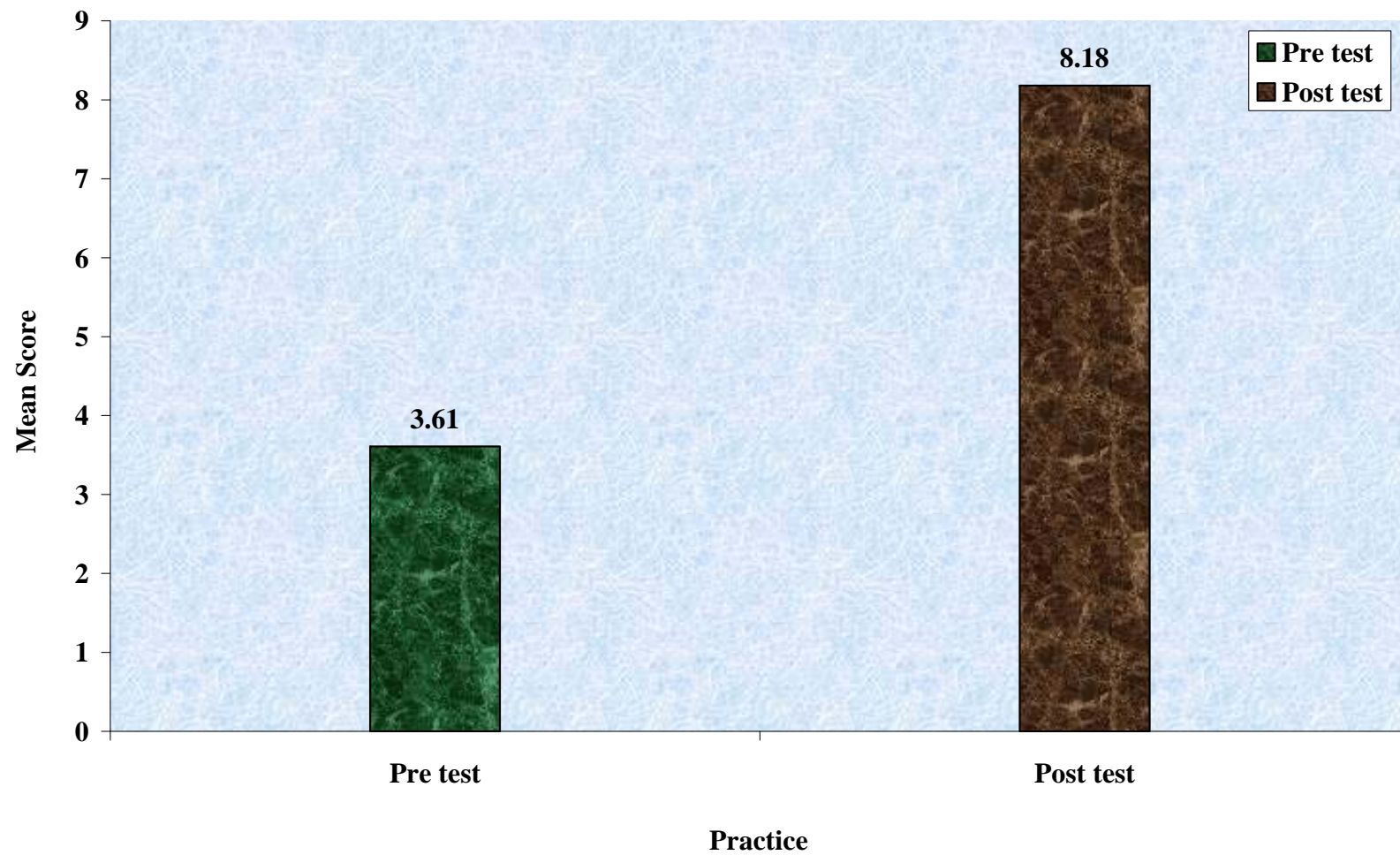
**Table. 4** Distribution of Statistical Value of Pre-test and Post-test Practice Score  
Among PPG Nursing College Final Year Students

(n = 30)

S. No.	Practice	Mean	Standard Deviation	Value	Level of significance
1.	Pre test	3.61	1.51	6.95*	0.05
2.	Post test	8.18	1.11		

\*Significance

Table 4 shows that the calculated value of 't' is 6.95 at 29 which is greater than the table value (t=2), is significant at  $p < 0.05$  level of significance. Therefore there is a significant difference between the pre-test and post-test mean score. It implies that the practice score of student's was improved significantly after intervening the video assisted teaching programme.



**Figure. 11** Distribution of Statistical Value of Pre-test and Post-test Practice Score Among PPG Nursing College Final Year Students

## SECTION - IV

**Table. 5** Correlation Between Pre-test Knowledge Score and Practice Score Regarding Revised CPR

(n = 30)

S. No.	Pre-test	Mean	S.D	r
1.	Knowledge	8.93	4.01	+0.97
2.	Practice	3.61	1.51	

Table 5 shows that there is a positive correlation between the knowledge score and practice scores in pre-test.

**Table. 6** Correlation Between Post Test Knowledge Score and Practice Score Regarding Revised CPR

S. No.	Post Test	Mean	S.D	r
1.	Knowledge	26.03	3.03	+0.90
2.	Practice	8.18	1.11	

Table 6 shows that there is a positive correlation between the knowledge score and practice scores in post-test.

## **CHAPTER - V**

### **Results and Discussion**

This is a one group pre test and post test experimental design intended to assess the knowledge regarding CPR among the PPG College final year nursing students. The results of the study were discussed according to the objectives.

**The First Objectives of the Study is to Assess the Knowledge of Final Year nursing students Regarding Revised Cardio Pulmonary Resuscitation (CPR) guideline.**

The pretest is conducted by using questionnaire method. The mean score of the Pre test knowledge was 15.9. The pre test findings reveal that the arts & science students have inadequate knowledge regarding CPR.

A similar type of study was conducted Rev. Latino. and Enfermagem (2011) conducted a study to assess theoretical knowledge of nurses working non hospital urgent and emergency care units. Concerning cardiac arrest and resuscitation. The study was conducted using descriptive study with quantitative approach. The population comprised 91 nurses of the Hucuv in the metropolitan region of Campinas working on the day shift (8hours), data were collected through a questionnaire divided in to parts. The sample was composed of 73 (80.2%) individual , three (2.7%) of the nurse refused to participant, eight (7.3%) were on vacation (or) sick leave , a total of the nurses incorrectly answered ,these individual do not know the Basic life support(BLS) guidelines. Only 37% answered it correctly.

## **The Second Objectives of the Study is to Assess the Practice of Final Year Nursing Students Regarding Revised Cardio Pulmonary Resuscitation (CPR) Guideline**

The pretest is conducted by using questionnaire method. The mean score of the Pre test practice was 3.61. The pre test findings reveal that the PPG Nursing College students have inadequate knowledge regarding CPR.

A similar type of study was conducted by B. E. Brenner (2012) has conducted a study on Determinants of reluctance to perform CPR among 280 categorical emergency nurses and internal nurses and respective program applicants at a 655 bed Brooklyn, New York. A direct relationship was observed between training level and reluctance to perform mouth-to-mouth respiration. This study showed that 74% of experienced staff nurses, 95.5% junior-level nurses were willing to perform mouth-to-mouth respiration.

## **The Third Objective of the Study was to Deliver Video Assisted Teaching Programme on Cardio Pulmonary Resuscitation Among Final Year Nursing Students**

The structured teaching programme was given through videos to all the students. All the students were attentive to health education. It was given for 20 minutes. All of them were willing to follow the instructions given and some were more interactive in getting clarification for their doubts.

A similar studies conducted by Eisenhurger. P (1999) recommended the life supporting first aid training for the public. In the 1960's introduced external cardio

pulmonary resuscitation (CPR) and basic life support without equipment that is A – Airway, B- Breathing, C-Chest Compression training given to the medical personal and later to some but not all lay persons.

**The Fourth Objective of the Study was to Re-assess the Knowledge and Practice Regarding Revised Cardio Pulmonary Resuscitation (CPR) Guideline**

The score of the Post test knowledge was 27.1. The paired ‘t’ test is used to evaluate the effectiveness of video assisted teaching programme by comparing Pretest and Post test score of knowledge. It was found that the calculated value ‘t’ is greater than that of table value. This confirms that there is significant difference between Pretest and Post test, score CPR with regard to the knowledge. Therefore alternative hypothesis is accepted and that increase Posttest score was due to Structured teaching programme.

The score of the Post test Practice was 8.18. The paired ‘t’ test is used to evaluate the effectiveness of structured teaching programme by comparing Pretest and Post test score of knowledge. It was found that the calculated value ‘t’ is greater than that of table value. This confirms that there is significant difference between Pretest and Post test, score CPR with regard to the knowledge. Therefore alternative hypothesis is accepted and that increase Posttest score was due to Structured teaching programme.

A similar study conducted by M. M. Parnell (2012) to assess the knowledge and practice among medical students regarding cardio pulmonary resuscitation. The subjects were provided with repeated teaching sessions about cardio pulmonary

resuscitation steps. After the intervention, it was found that the knowledge and practice of students on cardio pulmonary resuscitation technique was improved significantly.

**The Fifth Objective of the Study was to Find Out the Co-relation Between Knowledge and Practice of Final Year Nursing Students Regarding Cardio Pulmonary Resuscitation (CPR) Guideline**

The Karl Pearson's Correlation Coefficient was used to find out the relationship between knowledge and practice regarding revised Cardio Pulmonary resuscitation among Final Year Nursing Students. The 'r' value of pre-test is +0.97 and post test +0.90. It shows that there is a positive correlation between knowledge and practice score. This implies that the practice of students improve when the knowledge increases about revised cardio pulmonary resuscitation (CPR) guideline.

A similar study conducted by Donald (2011) to assess the knowledge and practice on cardio pulmonary resuscitation module revealed that the knowledge level is correlated to the practice level on cardio pulmonary resuscitation techniques positively and moderately.

## **CHAPTER - VI**

### **Summary, Conclusion, Nursing Implication, Limitation and Recommendations**

#### **Summary**

The study to “Assess the knowledge and Practice Regarding Revised Cardio Pulmonary Resuscitation among Nursing Students at PPG College Of Nursing”

One group Pre-test and Post-test experimental design was adopted in this study. Nursing college students were considered as the samples for the study. Sample size was 30. Yes or No questions were used to collect the data.

The data was collected by questionnaire method which includes demography data, closed ended questionnaire to assess the knowledge and Practice regarding CPR. Descriptive and inferential statistics were used to analyze the data.

The pre-test score was less in knowledge and practice aspects regarding CPR among nursing college students. Education was given about the CPR and various methods of CPR. The findings of the study revealed that there was an improvement in the post test knowledge score.

The purpose of the study was to assess the effectiveness of structured teaching on the knowledge and practice towards CPR techniques among final year nursing students.



### **The following Objectives were set for the Study**

- To assess the knowledge of final year nursing students regarding Revised Cardiopulmonary Resuscitation (CPR) guideline.
- To assess the Practice of final year nursing students regarding Revised Cardio Pulmonary Resuscitation (CPR) guideline.
- To deliver video assisted teaching programme to final year nursing student.
- To re-assess the knowledge and practice regarding revised Cardiopulmonary Resuscitation (CPR) guideline.
- To find out the correlation between knowledge and practice of final year nursing students regarding revised Cardiopulmonary Resuscitation (CPR) guideline.

### **Hypothesis Set for the Study**

- H<sub>1</sub>** The knowledge and practice towards Cardio Pulmonary Resuscitation techniques will be significantly improved by video assisted teaching.
- H<sub>2</sub>** There will be a positive correlation between the knowledge and practice scores in pre-test and post-test.

### **Major Findings of the Study were as Follows**

- The knowledge mean score of final year nursing students in pre-test was 15.9 and post- test was 27.1.
- The obtained standard deviation value in pre-test was 14.17 and post test was 8.23.
- The obtained 't' value of comparison was 22.03.
- The pre test knowledge on practice mean score was 3.61.

- The post test mean score of knowledge on practice was 8.18.
- The correlation between pre-test knowledge and knowledge on practice was +0.97
- The correlation between post-test knowledge and knowledge on practice was +0.90.

## **Conclusion**

Video assisted teaching regarding revised Cardio Pulmonary Resuscitation guideline was given to assess the effectiveness of video assisted teaching among final year nursing students. The post-test score of knowledge and practice were highly significant when compared to pre-test score using the paired 't' test. Thus the present study shows that the video assisted teaching was effective in improving the knowledge and practice towards CPR techniques among final year nursing students.

A positive correlation was found between the knowledge and practice score both in pre-test and post-test when tested using the karl pearson correlation coefficient. This shows that the improvement in knowledge about the revised CPR guideline helps in developing favorable practice towards the CPR techniques among final year students. Hence the formulated hypothesis was accepted.

Based on the study findings. It's concluded that the level of knowledge regarding revised CPR guideline among nursing students was poor. This clearly indicates the need for appropriate education intervention for enhancing nursing knowledge about revised CPR guideline

## **Nursing Implications**

Some of the implications from the present study in various areas of nursing are as follows.

### **Nursing Practice**

- The nurse should be equipped with up to date knowledge of CPR, so that they are able to impart appropriate knowledge to the students.
- The present study would help the nurses, acquire in depth knowledge on CPR.
- Nurses can be provided in service education to update their knowledge regarding cardio pulmonary resuscitation.

### **Nursing Education**

- The findings of the study indicate that all the arts college students should be made aware of the need of observing the teaching the CPR.
- Health can be established through mass media like posters, pamphlets, charts, samples, demonstrations and videos etc.,
- Student nurse and teaching faculty can be provided with in-service education to update their knowledge regarding CPR.
- Efforts should be made to improve and expand nursing curriculum to provide more content concerning awareness of CPR.

### **Nursing Administration**

- Periodic seminars and symposium can be arranged regarding CPR.
- Nursing administration should take initiative to conduct the period health education programme to improve the awareness of CPR.

### **Nursing Research**

- Adequate allocation of funds, nursing personnel to conducting the research.

### **Limitations**

- The limited sample size places limitation on the generalization of the study findings.
- The researcher could not use randomized sampling technique in this study.
- This study assessed the student knowledge and practice and attitude of the student was not assessed.

### **Recommendations**

- A study can be conducted with a larger sample size to confirm the results of the study.
- The comparative study can be conducted with in nursing college students.
- A similar study can be conducted by using experimental and control group.
- A study can be conducted among the other college students.
- A study can be conducted among the arts college students.
- Study can be conducted using random sampling technique.
- Study can be conducted with different educational level of nursing students.
- Study can be conducted with educational intervention aimed at improving the knowledge of nurses.

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## ABSTRACT

**Statement of the Problem :** A study to assess the knowledge and practice regarding revised Cardio Pulmonary Resuscitation (CPR) guideline among final year nursing students at PPG College of Nursing, Coimbatore. **Study Objective :** (a) To assess the knowledge of final year nursing students regarding Revised Cardiopulmonary Resuscitation (CPR) guideline. (b) To assess the Practice of final year nursing students regarding Revised Cardio Pulmonary Resuscitation (CPR) guideline. (c) To deliver video assisted teaching programme to final year nursing student. (d) To re-assess the knowledge and practice regarding revised Cardiopulmonary Resuscitation (CPR) guideline. (e) To find out the correlation between knowledge and practice of final year nursing students regarding revised Cardiopulmonary Resuscitation (CPR) guideline. **Methodology :** One group pre-test post-test experimental research design. 30 samples were selected by using purposive sampling technique. A structured questionnaire was used to assess the knowledge and practice. **Results :** Descriptive and inferential statistics were used to analyze the data. The obtained 't' value for comparison of knowledge score at  $p < 0.05$  was 22.03 and obtained 't' value for comparison of practice score at  $p < 0.05$  was 6.95. **Conclusion :** The study findings revealed that the video assisted teaching improved the knowledge and practice regarding revised cardio pulmonary resuscitation among final year nursing student.



# P.P.G COLLEGE OF NURSING

(A Unit of P. Perichi Gounder Memorial Charitable Trust)

(Affiliated to the Tamilnadu Dr. MGR Medical University)

(Approved by Government of Tamilnadu)

(Recognised by Indian Nursing Council)

**Cr. No. : 18-1183 / 2000 - INC. Resl. No. : 108/02/Oct/2005**

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**To**

**Through**

**The Principal,**

PPG College of Nursing

Coimbatore – 35.

Respected Sir,

**Sub :** Seeking permission for conducting research study

I am a student of M.Sc Nursing in PPG College of Nursing. Our college is affiliated to the Tamilnadu Dr. M. G. R Medical University, Chennai. I have taken the specialization in Medical Surgical Nursing.

**Topic : A STUDY TO ASSESS THE KNOWLEDGE AND PRACTICE  
REGARDING REVISED CARDIO PULMONARY  
RESUSCITATION (CPR) GUIDELINE AMONG FINAL YEAR  
NURSING STUDENTS AT PPG COLLEGE OF NURSING,  
COIMBATORE**

I request you to kindly permit me to conduct my study in your College. Hope you will consider my requisition and do the needful.

Thanking you,

Yours sincerely,

Date :

Place : Coimbatore

## **Requisition Letter for Content Validity**

**From**

M.Sc (N) II Year,  
PPG College of Nursing,  
Coimbatore – 35.

**To**

**Through : Principal, PPG College of Nursing**

Respected Sir/Madam,

**Sub : Requisition for expert opinion and suggestion for content validity of tool**

I am a student of M.Sc (N) II year, PPG College of Nursing affiliated to the Tamilnadu Dr. M. G. R. Medical University, Chennai. As a partial fulfillment of the M.Sc (N) programme. I am conducting.

**A STUDY TO ASSESS THE KNOWLEDGE AND PRACTICE  
REGARDING REVISED CARDIO PULMONARY RESUSCITATION (CPR)  
GUIDELINE AMONG FINAL YEAR NURSING STUDENTS AT PPG  
COLLEGE OF NURSING, COIMBATORE**

Herewith I have enclosed the developed tool for content validity and for the expert opinion and possible solution. It would be very kind of you to return the same as early as possible.

Thanking you,

Yours faithfully,

**PPG College of Nursing**  
**Format for the Content Validity**

Name of the expert :

Address :

Total content for the tool :

Kindly validate each tool and tick wherever applicable

S.No	No. of Tool/Section	Strongly Agree	Agree	O.K	Not Applicable	Need Modification	Remarks

Remarks

Signature of the Expert with Date

## **LIST OF EXPERTS**

**1. Dr. L. P. THANGAVELU**

Medical Director

Ashwin Hospital

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**2. Dr. RAJPAL. K. ABAICHAND**

Consultant Physician

G.K.N.M Hospital

Coimbatore.

**3. Prof. HARI PRIYA**

HOD, Medical Surgical Nursing

East West College Of Nursing

Bengaluru.

**4. Prof. B. LAVANYA**

Principal

BRS College Of Nursing

Punjab.

**5. Prof. ANAND PEREIRA**

HOD, Medical Surgical Nursing

C.B.H College Of Nursing

Nagerkovil.

## **PART - I**

### **Demographic Characteristics**

Sample No. :

Age :

Sex :

Religion : (Hindu / Muslim / Christian / Others)

Source of Information : (Mass media, Health Professionals / Books)

Medium of Instruction in School : (Tamil / English / Other)

Place of Stay : (Home / Hostel)

## PART - II

### Knowledge Questionnaire

Read the following questions and put a (✓)mark to the response. Which you think correct.

Yes    No

#### Anatomy and Physiology

- |   |                          |                          |
|---|--------------------------|--------------------------|
| 1. The heart weight is about 250 gms  | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. The left atrioventricular Valve is called mitral valve   | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. The superior and inferior vena cava collects the deoxygenate blood from the body to the left atrium. | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. The oxygenated blood is transferred through the pulmonary artery.                                    | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. The heart is supplied by Coronary artery.  | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. The peacemaker of the heart is SA node   | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. AV bundle is otherwise called as bundle of his   | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. The SA node is situated in the wall of the atrial septum   | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Hypoxia means decreased O <sub>2</sub> level in the blood.   | <input type="checkbox"/> | <input type="checkbox"/> |

#### Air way

- |   |                          |                          |
|---|--------------------------|--------------------------|
| 10. Lack of breathing is called Apnea.  | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. Head tilt is the only method to open the airway.                                      | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. On the head tilt method apply pressure in forward direction                           | <input type="checkbox"/> | <input type="checkbox"/> |
| 13. When the victim is suspected for a spinal cord injury we are using jaw thrust manure. | <input type="checkbox"/> | <input type="checkbox"/> |
| 14. Airway should be cleaned before artificial respiration.                               | <input type="checkbox"/> | <input type="checkbox"/> |

### **Breathing**

- |   |                          |                          |
|---|--------------------------|--------------------------|
| 15. Normal adult respiratory rate is 30 breaths / min                                     | <input type="checkbox"/> | <input type="checkbox"/> |
| 16. The simplest and quickest method is mouth – stomach breathing                         | <input type="checkbox"/> | <input type="checkbox"/> |
| 17. When blowing air into the victim mouth rescue has to see the victims abdomen movement | <input type="checkbox"/> | <input type="checkbox"/> |
| 18. Breath through a small permanent opening called a stoma                               | <input type="checkbox"/> | <input type="checkbox"/> |
| 19. Face shields are more effective than face masks                                       | <input type="checkbox"/> | <input type="checkbox"/> |
| 20. While using a barrier devices the victims neck is to the hyper extended               | <input type="checkbox"/> | <input type="checkbox"/> |

### **Circulation**

- |  |                          |                          |
|--|--------------------------|--------------------------|
| 21. The victim is in below one age the rescuer has to give chest compression with 2 or 3 finger                        | <input type="checkbox"/> | <input type="checkbox"/> |
| 22. When doing the chest compression the persons breast bone sinks is about 1.5 to 2 inches                            | <input type="checkbox"/> | <input type="checkbox"/> |
| 23. For a child the chest compression are given with only one hand   | <input type="checkbox"/> | <input type="checkbox"/> |
| 24. To apply the maximum pressure the rescue place the arms at right to the patients sternum                           | <input type="checkbox"/> | <input type="checkbox"/> |
| 25. The rescue has to give 80 chest compression per minute   | <input type="checkbox"/> | <input type="checkbox"/> |
| 26. Cardiopulmonary resuscitation is an emergency procedure to restore airway breathing and circulation                | <input type="checkbox"/> | <input type="checkbox"/> |
| 27. CPR can be done only in the hospital   | <input type="checkbox"/> | <input type="checkbox"/> |
| 28. It is important for checking for responsiveness of client by calling or vigorous of taking before you initiate CPR | <input type="checkbox"/> | <input type="checkbox"/> |
| 29. We have to make sure that weather the person is breathing or not   | <input type="checkbox"/> | <input type="checkbox"/> |
| 30. Person should be kept on a hard surface for effective CPR  | <input type="checkbox"/> | <input type="checkbox"/> |



## PART - III

### Practice Question

Read the following questions and put a (✓)mark to the response. Which you think correct.

S. No.	Question	Yes	No
1.	Have you witnessed a patient with cardiac arrest?		
2.	Did you perform CPR in any patient in the last 2 year?		
3.	30:2 is the compression /ventilation ratio followed in CPR for adult?		
4.	CAB is the sequence followed in initiating CPR?		
5.	At least 2 inch depth to be given during CPR to adult.		
6.	Mid chest is the location you give chest compression.		
7.	At a rate of 100compression/ min you give CPR to adult.		
8.	Time that can be taken to assess the pulse must be less than 10 second.		
9.	With in 2 minutes irreversible brain damage occurs if one fails to start CPR.		
10.	15:2 is the compression ventilation ratio for a case of newborn with cardiac arrest.		

## PART - II

### Answer Key

S. No.	Answer	Score
1.	Yes	1
2.	No	1
3.	No	1
4.	No	1
5.	Yes	1
6.	Yes	1
7.	Yes	1
8.	No	1
9.	Yes	1
10.	Yes	1
11.	No	1
12.	No	1
13.	Yes	1
14.	Yes	1
15.	No	1
16.	No	1
17.	No	1
18.	Yes	1
19.	Yes	1
20.	No	1
21.	Yes	1
22.	Yes	1
23.	Yes	1
24.	No	1
25.	No	1
26.	Yes	1
27.	No	1
28.	Yes	1
29.	Yes	1
30.	Yes	1

## PART - III

### Answer Key

S.No	Answer	Scores
1.	Yes	1
2.	Yes	1
3.	Yes	1
4.	Yes	1
5.	Yes	1
6.	Yes	1
7.	Yes	1
8.	Yes	1
9.	Yes	1
10.	Yes	1

**LESSON PLAN**

**ON**

**CARDIO PULMONARY**

**RESUSCITATION**

## **LESSON PLAN ON CARDIO PULMONARY RESUSCITATION**

TOPIC : Cardio pulmonary resuscitation

GROUP : Final year nursing students

PLACE OF TEACHING : PPG college of nursing

DURATION : 1 hour

METHOD Of TEACHING : Lecturing and Discussion

EVALUATOR : Mrs. Umamaheswari M.Sc (N)  
Lecturer

TEACHING AIDS : Pamphlets, Leaflets.

**Central Objective**

Helps the student to acquire knowledge about use of CPR and helps practicing in emergency situation.

**Specific Objective**

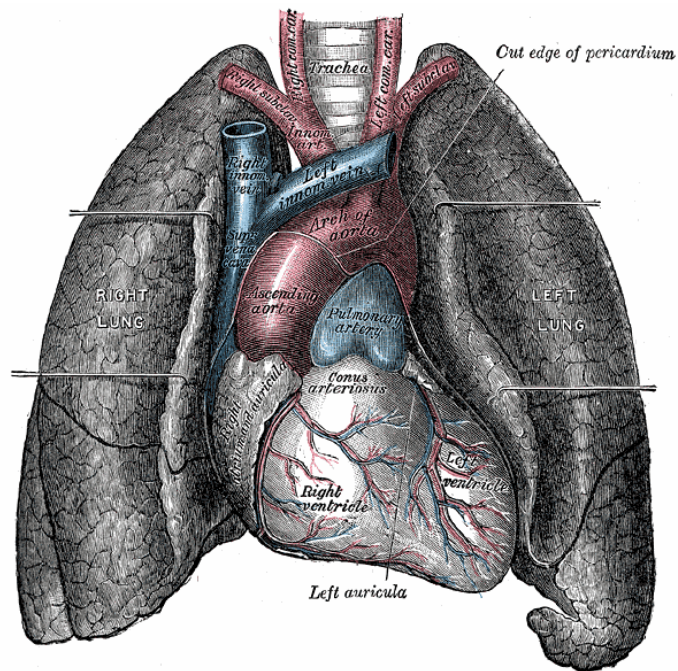
Students are able to

- ❖ review the anatomy and physiology of head
- ❖ define CPR
- ❖ enumerate the purpose
- ❖ list out the indication
- ❖ explain the procedure
- ❖ describe the precautions
- ❖ describe the preventions

Objectives	Content	Teacher's activity
<p>Students are able to review the anatomy and physiology of heart</p>	<p><b>Introduction</b></p> <p>CPR is part of the emergency cardiac care system designed to save lives. Many deaths can be prevented by prompt recognition of the problem and notification of the emergency medical system (EMS), shock to the heart is attempt to get the heart to beat normally and advanced cardiac life support measures.</p> <p><b>Anatomy and Physiology of Heart</b></p> <p>The Heart is a Roughly Cone-Shaped Hollow Muscular Organ. It Is About 10cm Long. It Weight About 225g In Women And 310 In Men.</p> <p><b>Position</b></p> <p>The heart lies in the thoracic cavity is the mediastinum between the lungs. The Heart is composed of three layers of tissue</p> <p>1. Pericardium</p>	<p>L E C T U R I N G</p>

2. Myocardium

3. Endocardium



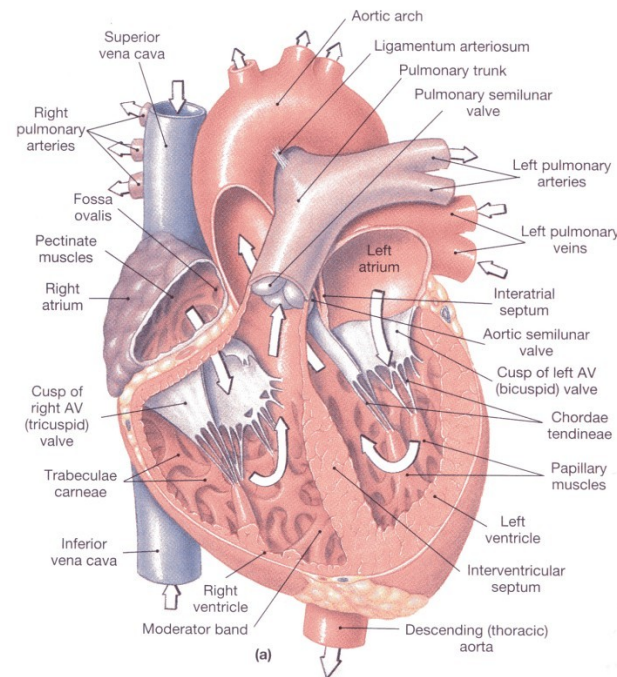
### 1. Pericardium

Pericardium is made up of two sacs. The outer sac consists of fibrous tissue and the inner is of a continuous double layer of serous membrane.

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	<p>The outer layer of the serous membrane, the parietal pericardium and the inner layer visceral pericardium.</p> <p><b>2. Myocardium</b></p> <p>The myocardium is composed of specialized cardiac muscle found only in the heart. each cell has a nucleus and one or more branches. in microscopically intercalated disc, can be seen as thicker, darker lines.</p> <p><b>4. Endocardium</b></p> <p>This forms the lining of the myocardium and the heart valves. It is a thin, smooth, glistening membrane which permits smooth flow of blood inside the heart.</p> <p><b>Interior of the Heart</b></p> <p>The heart is divided into right and left side by the septum. Each side is divided by an atrioventricular valve into an upper chamber, the atrium and a lower chamber, the ventricle .</p>	<p>L</p> <p>E</p> <p>C</p> <p>T</p> <p>U</p> <p>R</p> <p>I</p> <p>N</p> <p>G</p>
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The right atrioventricular valve called tricuspid valve and left atrioventricular valve called mitral valve.

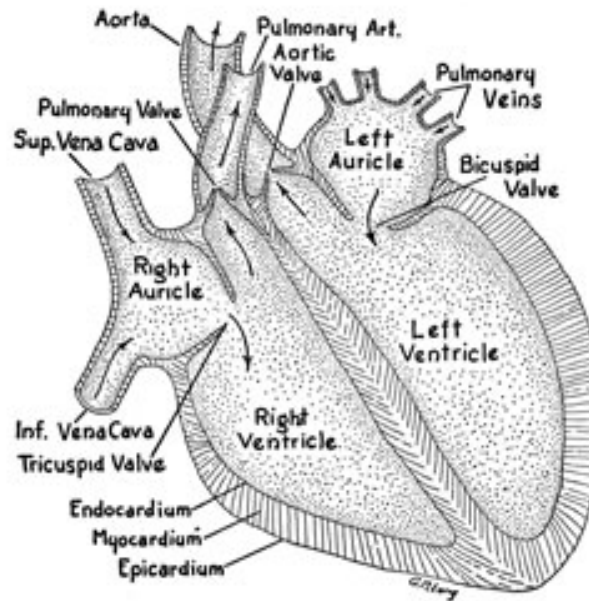
### **Flow of Blood through the Heart**

The two largest veins of the body superior and inferior venecaval collect the deoxygenated blood from the body to the right atrium. From the atrium to the right ventricle to the left ventricle

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through the tricuspid valve from the left ventricle the deoxygenated blood to the lungs through the pulmonary artery.

In the lungs the bloods are oxygenated from the lungs the  $O_2$  blood are transferred to the left atrium through the pulmonary veins. From the left atrium to left ventricle through the mitral valve from the left ventricle through the aorta.



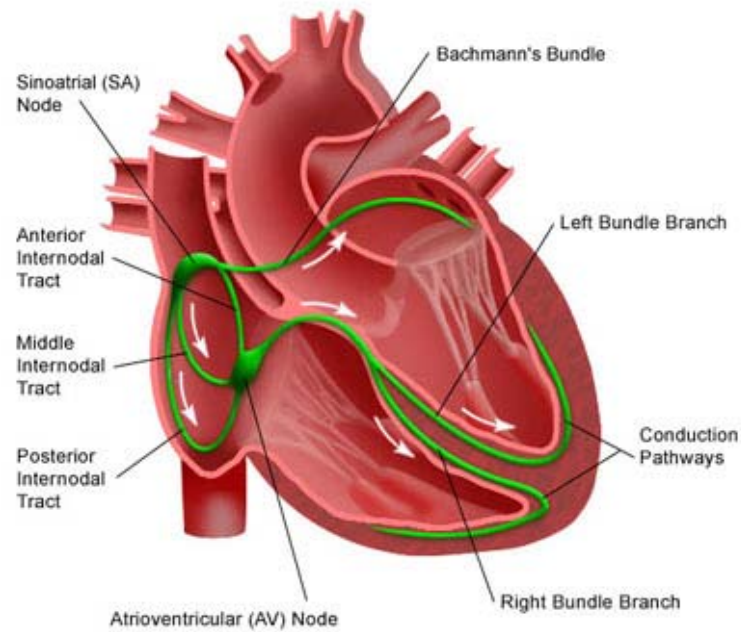
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### **Blood Supply to the Heart**

**Arterial Supply :** The heart is supplied with arterial blood by the right and left coronary arteries.

**Venous Drainage :** Coronary Sinus.

### **Conducting System of the Heart**



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	<p>The heart has an intrinsic system where by the cardiac muscle is automatically stimulated to conduct without the need for a nerve supply from the brain.the specialized cells are present.</p> <p><b>Sinoatrial Node (SA NODE)</b></p> <p>This is small mass of specialized cells is in the well of the right atrium near the opening of the superior venecaval. The SD node is the pace-maker of the heart because it is normally initiates impulses more rapidly than other groups of neuromuscular cells.</p> <p><b>Atrioventricular Node(AV NODE)</b></p> <p>This AV node is situated in the wall of the atrial septum near the atrioventricular valve. The AV node is stimulated by impulses that sweep over the trial myocardium.</p> <p><b>Atrioventricular Bundle</b></p> <p>It is otherwise called as bundle of his AV bundle is originated from the AV mode. The AV bundle crosses the fibrous ring that separates atria and ventricle then, at the upper end of the ventricular septum, it divided into the branches break up into fine fibres called the purkinje fibres.</p>	<p>L E C T U R I N G</p>
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<p>Students are able to define the CPR</p>	<p><b>Definition</b></p> <p>CPR is a procedure to supported maintain breathing and circulation for a persons who has stopped breathing (respiratory arrest) and for whose heart has arrested (cardiac arrest).</p> <p style="text-align: right;"><b>- Tomruk .O.Soyral,</b></p> <p>CPR combines rescue breathing elenteral chest compression, and cardio refers to the heart, and pulmonary refers to the lungs. resuscitation means “ to revive”. Proper and prompt CPR saves as a holding action by providing O<sub>2</sub> to the brain and heart with advanced cardiac life support can be provided.</p> <p style="text-align: right;"><b>- National Safety Counsel</b></p>	<p>L E C T U R I e</p>
<p>Students are able to explain the history</p>	<p><b>History</b></p> <p>CPR has been known in theory , if not practice, for many hundreds or even thousands of years, some claim it is described in the bible, discerning a superficial similarly to CPR in a passage from the books of kings (II 4:34) where in the Hebrew prophet Elisha warms a dead boy’s body and places his mouth over his” in the 19<sup>th</sup> century doctor HIR silvester described a method (The silvester method) of</p>	

<p>Students are able to list out the</p>	<p>artificial respiration in which the patient is laid on their back, and their arms are raised above their head to aid inhalation and then pressed against their chest to aid exhalation. The procedure is repeated several times per minutes. This type of artificial respiration is occasionally seen in film made in the early part of the 20<sup>th</sup> century.</p> <p>A second techniques called the Holger Neibon techniques, described in the fist edition of the boy scout handbook is the united states in 1911, described a form artificial respiration where the person was laid on their front, with their head to the side, and a process of lifting their arms and pressing on their back was utilized, essentially the silvester method with the patient flipped over. This form is seen well into the 1950s (it is used in an episode of lassie during the Jeff Miller arc) and was often used, sometimes for comedic effort, in theoretical cartoons of the times (see Tom and Jerry's The Cat and Mermouse'') This method would continue to be shown for historical purposes, side by side with modern CPR in the Boy Scout Handbook until it ninth edition in 1979.</p> <p><b>Purpose</b></p> <p>CPR can save live in such emergencies as loss of consciousness, heart attacks or heart arrests,</p>	
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purpose.	<p>electric shock, drawing, excessive bleeding, drug overdose, and other conditions in which there is no breathing or no pubs.</p> <p>CPR is performed to restore and maintain and circulation to provide and blood flow to the heart, brain and other vital organs.</p> <p><b>Indication</b></p> <ul style="list-style-type: none"> <li>❖ Hypoxia</li> <li>❖ Acute Myocardial infraction</li> <li>❖ Anaphylactic Shock</li> <li>❖ Angina Pectoris</li> <li>❖ Electric Shock</li> <li>❖ Anoxia Caused By Airways Obstruction</li> <li>❖ Drowning and other burns of asphyrnic resulting in an inadequate ventilation of the lungs.</li> </ul> <p><b>Description</b></p> <ul style="list-style-type: none"> <li>❖ Unconsciousness</li> </ul>	<p>L</p> <p>E</p> <p>C</p> <p>T</p> <p>U</p> <p>R</p> <p>I</p> <p>N</p> <p>G</p>
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	<p>❖ Not Breathing</p> <p>❖ No Pulse Detected</p> <p><b>1.Unconsciousness</b></p> <p>Unconsciousness is when the victim seems to be a deep but has all awareness and is not able to respond to question or to touch or gentle shaking. A sleeping person well usually responds to a loud noise, shouting, or gentle shaking. An unconsciousness person will not respond to noise or shaking. When unconscious, a person cannot laugh or cheer the throat which can block the wind pipe and cause suffocation death. People with a major illness or injury or who have had recent surgery are at risk for losing consciousness. If the person had fainted, which is brief unconsciousness, the case may be dehydration (lack of body fluids) low blood pressure, or low blood sugar. This is a temporary condition, if the victim is known to have diabetes, a bit- of fruit juice may receive the person once they regained consciousness.</p> <p>Just before a person loses consciousness, symptoms may include,</p> <ul style="list-style-type: none"> <li>• Lack of response to voice or touch</li> </ul>	<p>L E C T U R I N G</p>
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	<ul style="list-style-type: none"> <li>• Disorientation or stupor</li> <li>• Light –Hard ness</li> <li>• Head ache</li> <li>• Sleepiness</li> </ul> <p><b>2. Not Breathing</b></p> <p>Not breathing, which is also called apnea, is the lack of spontaneous breathing. It requires immediate medical attention. The victim may become limp and lifelong; have a seizures or tarn blue. Prolonged apnea is called respiratory arrest, To children; this can lead quickly to cardiac arrest in which the heart stops healing. To adults are obstructive sleep apnea (something block the airway during sleep) chocking, drug overdose, near-drowning, heart injury. Heart irregularities (arrhythmia, fibrillation) or cardiac arrest, nervous system disorder or metabolic disorder life- threatening shock is supplied. the rescues may need to explain to a doctor or medical professional where on the victims body the pulse was measured, if the pulse is weak or absent altogether, and what other symptoms are present.</p>	L  E  C  T  U  R  I  N  G
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	<p>Medical help and CPR are needed immediately if any of these symptoms is found. Time is critical. The local emergency number should be called immediately if more than one person is available to help, one can call all or a local emergency medical service, while the other persons begin CPR. Ideally someone CPR certified performs the procedures local medical personnel at a hospital or the American Heart Association teaches special accredited CPR courses, if a critically ill patient or poor-operative patient is being cared for at home, it is a good idea for a family member to take a CPR course to be better prepared to help in case of an emergency.</p> <p>To children the cause may be different, such as premature, bronchi disturbances or pneumonia, airway blockage or choking on a foreign object, holding the breath, seizures, meningitis, repudiating foods or asthma attacks.</p> <p><b>1. No pulse Detected</b></p> <p>If the rescuer is unable to detect a pulse or too difficult is feeling a pulse it can be an</p>	L E C T U R I N G
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<p>Students are able to explain the procedures</p>	<p>indication of the use of improper techniques by the rescues, or shock or cardiac arrest in the victim. if a sudden, fever increase occurs in pulse quality (such as pulse weakness) or pulse rate (how many beats in a minute) when other symptoms are also present.</p> <p><b>AIMS</b></p> <ul style="list-style-type: none"> <li>• To save life</li> <li>• To award the emergency situations</li> <li>• To improve the health status</li> <li>• To hospitalize the patient</li> <li>• To protect the patient brain from anoxemia</li> <li>• To minimize the complication eg: damage of spinal cord.</li> <li>• To prevent the permanent brain damage</li> </ul> <p><b>Procedure</b></p> <p>The basic procedures for CPR are the same for all people with a jaw modifications for infant and children to account of their smaller size.</p>	<p>L E C T U R I N G</p>
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	<p><b>Performing CPR on the Adult</b></p> <p>The first step is to call the emergency medical system for help by desk phoning all: then to begin following these steps.</p> <ul style="list-style-type: none"><li>❖ Airway</li><li>❖ Breathing</li><li>❖ Circulations</li></ul> <p><b>Airway</b></p> <p><b>Open the Airway:</b> Clear any debits out of his/her mouth, throat. This can include broken teeth, vomits, broken. Clusters mucus or foreign matter that got into the mouth during injury.</p> <p>Airway is open by two methods.</p> <ul style="list-style-type: none"><li>a. Head hilt</li><li>b. Jaw thrust</li></ul> <p><b>a. Head Tilt</b></p> <p>Place the palm of one hand on the victims fore head.</p>	<p>L</p> <p>E</p> <p>C</p> <p>T</p> <p>U</p> <p>R</p> <p>I</p> <p>N</p> <p>G</p>
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	<ul style="list-style-type: none"> <li>• Apply firm, backward pressure</li> <li>• Lifting the victims head backward as far as possible</li> <li>• Additional assistance is gained by using either the neck lift or chin lift performed with other hand.</li> </ul> <p>The head tilt neck lift and head tilt-chin lift maneuver.</p> <p><b>b. Jaw thrust</b></p> <p>This is used when a cervical or spinal injury is suspected. After mandible is displaced forward support it the head carefully without lifting it backward or turning it from side to side.</p> <p><b>2. Breathing</b></p> <p>In the “BREATHING” four methods are include</p> <ol style="list-style-type: none"> <li>1) Mouth –to- Mouth Method</li> <li>2) Mouth –to –Nose Method</li> <li>3) Mouth –to- Stome Method</li> <li>4) Mouth- to= Barriers Devices</li> </ol>	L  E  C  T  U  R  I  N  G
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	<p><b>Mouth-to Mouth Method</b></p> <p>The mouth-to mouth method rescue breathing is the simplest, quickest, and most effective method for an emergency situation.</p> <p>During rest, the normal adult breathing rate is about 12 times per minute and the volume is 0.5 to 1.0 liter per breath. Mouth-to-mouth rescue breathing provides 0.8 to 1.2 liters of exhaled aid per breath. Exhaled crisis about 16% O<sub>2</sub> (which is enough to sustain life) or comparison to room air, which is 21%.</p> <p>Mouth-to-mouth breathing is preferred over mouth-to-nose breathing, especially if there is nasal bleeding injury, or blockage, to perform mouth-to-mouth rescue breathing, follow these steps.</p> <ol style="list-style-type: none"> <li>1. Make sure the victim head is positioned with the neck extended the head tilted backward to open the airway.</li> <li>2. Pinch the victim nose closed to prevention from escaping, using the same hand that is on the victim forehead to keep the neck extended.</li> <li>3. Take a deep breath</li> </ol>	<p>L E C T U R I N G</p>
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	<p>4. Make a tight seal with your mouth ground the victim mouth.</p> <p>5. Slowly blow air is to the victim mouth until you see the chest rise.</p> <p>6. Remove your mouth, to allow the air to come out and turn head away as you take another breath.</p> <p><b>Repeat one or more breath.</b></p> <p>If the first breath does not go in, re-tilt the victims head and try a second breath.</p> <p><b>Mouth -to-Nose Method</b></p> <p>The mouth-to-nose techniques is performed like mouth-to-mouth breathing, except that you force your exhaled breath through the victim nose while holding his or her mouth closed with one hand pushing upon the chin. The victim's mouth then must he held open so any nasal obstruction does not implied exhalation of air from the victim lungs.</p> <p><b>Mouth-to-Stome Method</b></p> <p>Laryngectoers do not have a connection between the upper airway and the lungs. They breath through a small permanent opening called a stome.</p>	<p>L</p> <p>E</p> <p>C</p> <p>T</p> <p>U</p> <p>R</p> <p>I</p> <p>N</p> <p>G</p>
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	<p>In mouth-to-stome rescue breathing, the victim’s mouth and nose must be closed, during the delivery of breaths because the air can flow upward into the upper airway through the larynx a well as downward into the lungs. You can close the victim’s mouth and nose with one hand. Determine breathing by looking at, listening to, and feeling at the stome, keep the victims heads nock level.</p> <p><b>Mouth-to-Barrier Device</b></p> <p>There are two types of mouth-to-barriers devices</p> <ol style="list-style-type: none"> <li>1) Face masks</li> <li>2) Face-shields</li> </ol> <p><b>Facemasks</b></p> <p>Face masks cover the victim mouth and nose. Most have a one-way valve so exhaled air form the victims does not enter the rescuers mouth. “According to the American Heart Association, face masks are more effective than face shields.</p> <p><b>Face Shields</b></p> <p>These clear plastic devices have a mouth piece through which the rescuer breaths. Some</p>	<p>L</p> <p>E</p> <p>C</p> <p>T</p> <p>U</p> <p>R</p> <p>I</p> <p>N</p> <p>G</p>
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models have a short airway that is inserted into the victim’s mouth over the tongue. They are smaller and less explosive than face masks, but air can leak around the shield.

Use of a barrier device requires the victim’s neck to be hyper extended and the cloin lifted. After the mask is in place, the rescuer breaths through the device. The techniques is performed like mouth-to-mouth breathing

**CIRCULATION**

Age	Breathing	Chest compression	Dept
1. Below 1 age	2 times mouth-to-mouth nose breathing	30times (2 or 3 finger)	½ -1” (1.5-2.5cm)
2. 1-8years	2 times mouth-to-mouth breathing	30times (1 hand)	1-1½” (2.5-4.cm)
3. After 8years	2 times	30 times (2 hand)	1½-2” (4.0-5.0cm)

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	<p><b>Circulation</b></p> <p>If there is no heart beat, the rescues performs chest compression. The rescues kneel next to the unconscious person, placing the heel of one hand to the spot on the lower chest where the two halves of the ribcage come together. The rescuer place one hand on top of the other on the persons chest and interlocking the fingers. The arms are straightened, the rescues shoulders are positioned directly above the hands on the unconscious person's chest. The hands are pressed down, using only the palms, so that the person's breast bone sinks in about 1.5 -2inches. The rescuer releases pressure without removing the hands, they repeat about 15 times per 10-15 second intervals.</p> <p>The rescuer tills the unconscious person's head and return to rescue breathing for one or two quick breaths. Then breathing and chest compressions are alternated for one minute before checking for a public if the rescues find signs of a heartbeat and breathing CPR is stopped.</p>	<p>L</p> <p>E</p> <p>C</p> <p>T</p> <p>U</p> <p>R</p> <p>I</p> <p>N</p> <p>G</p>
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**Performing CPR on an Infant or Child Under the Age of Eight**



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<p>Students are able to describe the precaution</p>	<ul style="list-style-type: none"> <li>• The rescuer administers CPR for one minute. Then calls foolery</li> <li>• The rescuer males a seal around the child's mouth or infant's nose and mouth to give gentle breaths. The rescuer delivers 20 rescues breaths per minute, taking 1.5.2 seconds for each breath.</li> <li>• Chest compression is given with only one hand for a child and with two or these finer for an infant. The breast bone is depressed only 1-1.5 in (2.5-3.8cm) for a child 0.5-1 in (1.3-2.5cm) for an infant, and the rescuer gives at least 100 chest compression per minutes.               <ul style="list-style-type: none"> <li>a. Position of the hands during application of cardiac compression</li> <li>b. When pressure is applied, the lower position of the sternum is displaced posterior with the palm of the hand.</li> <li>c. To apply maximum downward pressure, rescues leans forward so that both arms are at right angle to the patient's sternum and the elbows are locked.</li> </ul> </li> </ul> <p><b>Precautions</b></p> <p>These are certain important precautions. These include</p> <ul style="list-style-type: none"> <li>❖ Do not leave the victim alone</li> </ul>	<p>L E C T U R I N G</p>
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<p>Students are chest describe the prevention</p>	<ul style="list-style-type: none"> <li>❖ Do not give the chest compressions of the victim has a pulse chest compression when there is normal circulation could cause the heart to stop beating.</li> <li>❖ Do not give the victim anything to eat or drink</li> <li>❖ Avoid moving the victim head or neck if spinal injury is a possibility. The person should be left as found if breathing freely. To check for breathing when spinal injury is suspected, the rescues should only listen for breath by the victim mouth and watch the chest for movement.</li> <li>❖ Do not sleep the victim face, or throw water on the face, to try and revive the person.</li> <li>❖ Do not place a pillow victims head.</li> </ul> <p><b>Prevention</b></p> <ul style="list-style-type: none"> <li>❖ People with known conditions or disease, such as diabetes or epilepsy, should wear a medical alert tag or bracelet</li> <li>❖ People with diabetes should avoid situation that will lower their blood sugar level.</li> <li>❖ People who feel weak, become dizzy or light headed, or have over fainted, should avoid standing in one place to long without moving.</li> </ul>	<p>L E C T U R I N G</p>
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	<ul style="list-style-type: none"> <li>❖ People who feel faint, can lie down or sit with their head lowered between their knees.</li> <li>❖ Risk factor that contributes to heart disease should be reduced or eliminated. People can reduce risks if they stop smoking lower blood pressure and cholesterol, lose weight, and reduce stress</li> <li>❖ Illegal recreational drugs should be avoided</li> <li>❖ Seeing a doctor regularly and being aware of any disease conditions or risk factor can help prevent or complicate illness, as can seeking and following the doctor's advice about diet exercise.</li> <li>❖ Using seat belt and driving carefully can help avoid accidental injury.</li> <li>❖ People with poor eyesight or those who have difficulty walking because of disability, injury or recovery from illness, can use other assistance device to help them avoid falls and injury.</li> </ul> <p><b>Summary</b></p> <p>So far we have gone through about the steps in cardiopulmonary cerebral resuscitation.</p> <p><b>Conclusion</b></p> <p>CPR is most needed when someone goes in to cardiac arrest without notice. So as a human we must be known about the CPR.</p>	<p>L</p> <p>E</p> <p>C</p> <p>T</p> <p>U</p> <p>R</p> <p>I</p> <p>N</p> <p>G</p>
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	<p><b>Bibliography</b></p> <ul style="list-style-type: none"> <li>➤ Ross and Wilson, 2004 Anatomy and physiology is health and illness 9<sup>th</sup> edition, Churchill Livingstone. Edinburgh Levis, Medical surgical Nursing” 7<sup>th</sup> edition Mosby Elsevier.</li> <li>➤ Holloway N.M (1999), “MEDICAL SURGICAL CARE PLANNING”, 3rd edition Spring House publishers, New Delhi</li> <li>➤ Nettina .M. Sandra (2001), “THE LIPPINCOTT MANUAL OF NURSING PRACTICE”, (7<sup>th</sup> Edition), international student Edition, Lippincott company.</li> </ul>	
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